

CORRESPONDENCE OF SPINOZA

cannot be understood without the solution of these new questions, since the solution of these and what pertains thereto cannot be grasped without understanding first the necessity of things. For, as you know, the necessity of things touches Metaphysics, and the knowledge of this must always come first. But before I could get the desired opportunity I received this week yet another letter under cover from my host which seems to show some displeasure caused by the long delay, and which has therefore compelled me to write these few lines in order to express briefly my decision and intention, as I have now done. I hope that when you have considered the matter you will willingly desist from your request, and will nevertheless retain your kindly disposition towards me. I for my part will show, in all ways that I can and may, that I am

Your well-disposed Friend and Servant,

B. DE SPINOZA.

To MR. WILLIAM VAN BLEYEN BERGH,

GRAIN-BROKER,

AT DORDRECHT,

NEAR THE GREAT CHURCH.

PT.

VOORBURG, 3 *June* 1665.

LETTER XXVIII

B. D. S.

TO THE VERY LEARNED AND EXPERT

MR. JOHN BOUWMEESTER.

EXCELLENT FRIEND,

I do not know whether you have entirely forgotten me, but many things concur in suggesting the suspicion. First, when I was on the point of setting out for my journey I wished to say good-bye to you, and thought that, as you yourself had invited me, I should without doubt find you at home. I found you

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had gone to the Hague. I return to Voorburg nothing doubting but that you would at least visit me in passing. But, if it please the Gods, you have returned home, without having greeted your friend. Lastly, I have been waiting three weeks, and in all this time no letter from you has come into sight. If therefore you wish to remove this opinion of mine, you will do so easily by a letter from you, in which you will also be able to point out a way of arranging our intercourse by letter, of which we once talked in your house. Meanwhile I should like earnestly to ask you, or rather I pray and beseech you by our friendship, to be willing to prosecute some serious work with real eagerness, and to deign to devote the better part of your life to the cultivation of your understanding and your soul. I say this while there is yet time, and before you complain that time or rather you had slipped away.

Moreover, in order to say about our projected correspondence something which may encourage you to write more freely to me, you must know that I have before now suspected, and I am almost certain, that you are rather diffident about your abilities, more indeed than is right, and that you are afraid that you may ask, or assert, something which may not savour of a learned man. But it does not become me to praise you to your face, and to enumerate your endowments. If, however, you are afraid lest I should communicate your letters to others, to whom you might then become a laughing-stock, on this point I give you my word that I will preserve them religiously, and that I will not communicate them to any mortal without your leave. On these conditions you can begin our correspondence, unless perchance you doubt my good faith, which I do not believe. I expect, however, to learn your opinion about this from your first letter. I also expect some of that conserve of red roses which you promised, although

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I have for a long time now been better. After my departure from there I opened a vein once, but the fever did not cease (although I was rather more active than before the blood-letting, as I think, because of the change of air). But I have twice or three times been afflicted with the tertian fever, which, however, I have driven off at last with a good diet, and sent to the devil. I know not where it went, but I am taking care that it should not return.

As regards the third part of my philosophy, I will shortly send something of it to you, if you wish to be its translator, or to my friend de Vries. Although I had resolved to send nothing until I had completed it, yet since it is taking longer than I had expected, I do not wish to keep you waiting too long. I will send it to you up to about the eightieth proposition.

I hear much of English affairs, but nothing certain. The populace does not cease to apprehend all things evil, nor can any one find a reason why the fleet does not set sail. Indeed, the matter does not yet seem to be safe. I fear that our people wish to be too wise and far-seeing. But the course of events will itself show at last what they have in mind, and what they will attempt—may the Gods prosper it. I should like to hear what our people there think and what they know for certain, but more, and above all things, that you consider me, etc.

[VOORBURG, *June* 1665.]

LETTER XXIX

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

EXCELLENT SIR, MOST HONOURED FRIEND,

From your last letter, written to me on the 4th of September, it is clear that you have our affairs at heart, and not merely as a passing interest. You have laid under an obligation not only me, but also our most

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noble Boyle, who joins me in thanking you very much for this, and who will requite your kindness and affection when occasion offers, by every kind of service which can be rendered by him. You will also be able to persuade yourself firmly that the same thing is true of me. As regards that too officious man who, notwithstanding the version of the Treatise on Colours which has already been prepared here, nevertheless wished to provide another, perhaps he will realize that he has ill consulted his own interests by his preposterous eagerness. For what would happen to his Translation if the Author enlarged the Latin version, prepared here in England, with many experiments that are not found in the English version? Necessarily, our version, which is shortly to be distributed, must then be altogether preferable to his, and must be much more highly esteemed by sensible men. But let him revel in his own sense, if he likes; we shall look after our own affairs as may seem to be most advisable.

Kircher's *Subterranean World* has not yet appeared in our English world on account of the plague, which hinders nearly all traffic. In addition there is this most dreadful war, which brings in its train a very Iliad of evils, and all but wipes out all human kindness from the world.

Meanwhile, however, although our Philosophical Society holds no public meetings in these times of danger, yet here and there its Fellows do not forget that they are such. Hence some are privately occupied with Experiments in Hydrostatics, others with Anatomical, others with Mechanical, and others with other experiments. Mr. Boyle has subjected to examination the problem of the origin of Forms and Qualities as it has been hitherto treated in the Schools and by teachers, and he has composed on this subject a treatise (no doubt excellent), which will shortly go to press.

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I see that you are not so much philosophizing as, if I may say so, theologizing; for you are writing down your thoughts about Angels, prophecy and miracles. But perhaps you are doing this in a philosophical manner. However that may be, I am sure that the work is worthy of you, and especially desired by me. Since these very difficult times hinder freedom of intercourse, I ask you at least not to mind telling me in your next letter your plan and object in this work of yours.

Here we are daily expecting news of a second naval battle, unless perhaps your Fleet has again retired into port. The courage with which you hint that your men fight is brutish not human. For if men acted under the guidance of reason, they would not so rend one another in pieces, as is obvious to everybody. But why do I complain? There will be wickedness as long as there are men; but that is not unrelieved, and is counterbalanced by the intervention of better things.

While I am writing this, a letter is delivered which was written to me by that distinguished astronomer of Dantzic, Mr. John Hevelius. In this he tells me, among other things, that his *Cometography*, consisting of twelve books, has already been in the press for a whole year, and that four hundred pages, or the first nine books, are finished. He says, moreover, that he has sent me some copies of his *Prodromus Cometicus*, in which he has fully described the first of the two recent comets. But they have not yet come into my hands. He states, besides, that he is publishing another book on the second comet also, and is submitting it to the judgment of the learned.

What, I pray you, do your people think of the pendulums of Huygens, especially of that kind which is said to show the measure of time so exactly that it can be used for finding out longitudes at sea? Also what is happening about his Dioptrics, and his Treatise on

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Motion, both of which we have been expecting for a long time already. I am sure that he is not idle; I only wish to know what he is working at.

Farewell, and continue to love

Your most devoted

H. O.

[LONDON, *September* 1665.]

To MR. BENEDICTUS SPINOSA,
IN THE BAGGYNE STREET
IN THE HOUSE OF MR. DANIEL, PAINTER,
IN ADAM AND EVE
AT THE HAGUE.

LETTER XXX

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to the Preceding.

. . . I rejoice that your philosophers are alive and remember themselves and their republic. I shall expect news of what they have done recently, when the warriors are sated with blood, and rest in order to renew their strength a little. If that famous scoffer were alive to-day, he would surely die of laughter. These disorders, however, do not move me to laughter nor even to tears, but rather to philosophizing, and to the better observation of human nature. I do not think it right for me to laugh at nature, much less to weep over it, when I consider that men, like the rest, are only a part of nature, and that I do not know how each part of nature is connected with the whole of it, and how with the other parts. And I find that it is from the mere want of this kind of knowledge that certain things in Nature were formerly wont to appear to me vain, disorderly, and absurd, because I perceive them only in part and mutilated, and they do not agree with our philosophic

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mind. But now I let every man live according to his own ideas. Let those who will, by all means die for their good, so long as I am allowed to live for the truth.

I am now writing a Treatise about my interpretation of Scripture. This I am driven to do by the following reasons: 1. The Prejudices of the Theologians; for I know that these are among the chief obstacles which prevent men from directing their mind to philosophy; and therefore I do all I can to expose them, and to remove them from the minds of the more prudent. 2. The opinion which the common people have of me, who do not cease to accuse me falsely of atheism; I am also obliged to avert this accusation as far as it is possible to do so. 3. The freedom of philosophizing, and of saying what we think; this I desire to vindicate in every way, for here it is always suppressed through the excessive authority and impudence of the preachers.

I have not yet heard that any Cartesian explains the phenomena of the recent comets on Descartes' hypothesis; and I doubt whether they can rightly be thus explained. . . .

[VOORBURG, *September or October* 1665.]

LETTER XXXI

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

[*Reply to the Preceding.*]

MOST EXCELLENT SIR, HONOURED FRIEND,

You act as befits a wise man and a philosopher, you love good men. And there is nothing to make you doubt that they love you in return and esteem your merits as they should. Mr. Boyle joins with me in sending you hearty greeting, and urges you to go on with your philosophy strenuously and thoroughly. Especially do we warmly beseech you to communicate

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it to us, if you see any light on that most difficult investigation, which turns on the question of our knowing how each part of Nature accords with the whole of it, and in what way it is connected with all the other parts.

I entirely approve the reasons which you mention as inducements to write your *Treatise on Scripture*, and I desperately wish already to see your thoughts on that subject with my own eyes. Mr. Serrarius may perhaps shortly send me a small parcel. To him, if you think fit, you may safely entrust what you have already written on this subject, and you may also be sure of our readiness to render services in return.

I have read part of Kircher's *Subterranean World*, and although his reasoning and theories do not evidence a great mind, yet the Observations and Experiments which are given to us in it speak well for the author's diligence, and his desire to deserve well of the Republic of Philosophers. You see therefore that I attribute to him a little more than piety, and you will easily discern the mind of those who sprinkle him with this Holy Water.

When you mention the *Treatise on Motion* by Huygens, you intimate that Descartes' Laws of Motion are nearly all false. I have not now at hand the little book which you published some time ago on the *Principles of Descartes, proved Geometrically*. I do not recall whether in this you showed that error, or whether you followed Descartes closely for the sake of others. I wish that at length you would bring forth the fruits of your own thought, and entrust them to the philosophical world to cherish and to foster. I remember that you pointed out somewhere that many of the things which Descartes himself said were beyond human comprehension, nay even others more sublime and subtle, can be clearly understood by men and be most clearly explained. Why do you hesitate, my Friend, what do you fear?

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Make the attempt, go forward, accomplish this most important task, and you will see that the whole chorus of real Philosophers will defend you. I venture to pledge my word, which I would not do if I doubted my power to redeem it. I cannot believe at all that you entertain the thought of attempting anything against the Existence and Providence of God, and so long as these supports are intact Religion stands on a firm basis, and all Philosophical Reflections can easily be either defended or excused. Therefore make an end of delays, and suffer not your cloak to be rent.

I think you will shortly hear what there is to say about the recent comets. Hevelius of Dantzic and the Frenchman Auzout, both learned men and Mathematicians, are disputing among themselves about the Observations which were made. The controversy is being considered at present, and when the dispute is decided, the whole affair will, I believe, be communicated to me, and by me to you. This much I can already say, that all the Astronomers, at least those who are known to me, hold the view that there were not one but two comets, and that I have not so far met anyone who has tried to explain their Phenomena by means of the Cartesian Hypothesis.

I pray you, if you receive any further news of the studies and doings of Mr. Huygens and of the success of his pendulums in the matter of ascertaining longitude, and of his removing to France, not to mind letting me know as soon as possible. Add, too, I pray you, what is said in your country about the Negotiation of peace, about the plans of the Swedish army which has been sent against Germany, and the progress of the Bishop of Munster. I believe that the whole of Europe will be involved in wars next summer, and all things seem to tend towards an unusual change.

Let us serve the highest Divinity with a pure mind,

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and cultivate a Philosophy which is true, sound and useful. Some of our Philosophers who followed the King to Oxford hold frequent meetings there, and are concerned in promoting Physical studies. Among other things they have recently begun to inquire into the nature of sounds. I believe they will make experiments to discover in what proportion weights must be increased to stretch a chord, without the aid of any other force, so that it may be applied to produce the next higher note which makes a certain consonance with the previous sound. More about this another time.

Farewell and remember your most devoted
HENRY OLDENBURG.

LONDON, 12 October 1665.

LETTER XXXII

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to the Preceding.

MOST NOBLE SIR,

I thank you and the very Noble Mr. Boyle very much for kindly encouraging me to go on with my Philosophy. I do indeed proceed with it, as far as my slender powers allow, not doubting meanwhile of your help and goodwill.

When you ask me what I think about the question which turns on *the Knowledge how each part of Nature accords with the whole of it, and in what way it is connected with the other parts*, I think you mean to ask for the reasons on the strength of which we believe that each part of Nature accords with the whole of it, and is connected with the other parts. For I said in my preceding letter that I do not know how the parts are really interconnected, and how each part accords with the whole ;

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for to know this it would be necessary to know the whole of Nature and all its Parts.

I shall therefore try to show the reason which compels me to make this assertion ; but I should like first to warn you that I do not attribute to Nature beauty or ugliness, order or confusion. For things cannot, except with respect to our imagination, be called beautiful, or ugly, ordered or confused.

By connection of the parts, then, I mean nothing else than that the laws, or nature, of one part adapt themselves to the laws, or nature, of another part in such a way as to produce the least possible opposition. With regard to whole and parts, I consider things as parts of some whole, in so far as their natures are mutually adapted so that they are in accord among themselves, as far as possible ; but in so far as things differ among themselves, each produces an idea in our mind, which is distinct from the others, and is therefore considered to be a whole, not a part. For instance, since the motions of the particles of lymph, chyle, etc., are so mutually adapted in respect of magnitude and figure that they clearly agree among themselves, and all together constitute one fluid, to that extent only, chyle, lymph, etc., are considered to be parts of the blood : but in so far as we conceive the lymph particles as differing in respect of figure and motion from the particles of chyle, to that extent we consider them to be a whole, not a part.

Let us now, if you please, imagine that a small worm lives in the blood, whose sight is keen enough to distinguish the particles of blood, lymph, etc., and his reason to observe how each part on collision with another either rebounds, or communicates a part of its own motion, etc. That worm would live in this blood as we live in this part of the universe, and he would consider each particle of blood to be a whole, and not a part. And he could not know how all the parts are

controlled by the universal nature of blood, and are forced, as the universal nature of blood demands, to adapt themselves to one another, so as to harmonize with one another in a certain way. For if we imagine that there are no causes outside the blood to communicate new motions to the blood, and that outside the blood there is no space, and no other bodies, to which the particles of blood could transfer their motion, it is certain that the blood would remain always in its state, and its particles would suffer no changes other than those which can be conceived from the given relation of the motion of the blood to the lymph and chyle, etc., and so blood would have to be considered always to be a whole and not a part. But, since there are very many other causes which in a certain way control the laws of the nature of blood, and are in turn controlled by the blood, hence it comes about that other motions and other changes take place in the blood, which result not only from the mere relation of the motion of its parts to one another, but from the relation of the motion of the blood and also of the external causes to one another: in this way the blood has the character of a part and not of a whole. I have only spoken of whole and part.

Now, all the bodies of nature can and should be conceived in the same way as we have here conceived the blood: for all bodies are surrounded by others, and are mutually determined to exist and to act in a definite and determined manner, while there is preserved in all together, that is, in the whole universe, the same proportion of motion and rest. Hence it follows that every body, in so far as it exists modified in a certain way, must be considered to be a part of the whole universe, to be in accord with the whole of it, and to be connected with the other parts. And since the nature of the universe is not limited, like the nature of the blood, but absolutely infinite, its parts are controlled by the nature of this

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infinite power in infinite ways, and are compelled to suffer infinite changes. But I conceive that with regard to substance each part has a closer union with its whole. For as I endeavoured to show in my first letter, which I wrote to you when I was still living at Rhynsburg, since it is of the nature of substance to be infinite, it follows that each part belongs to the nature of corporeal substance, and can neither exist nor be conceived without it.

You see, then, in what way and why I think that the human Body is a part of Nature. As regards the human Mind I think it too is a part of Nature : since I state that there exists in Nature an infinite power of thought, which in so far as it is infinite, contains in itself subjectively the whole of Nature, and its thoughts proceed in the same way as Nature, which, to be sure, is its ideatum.

Then I declare that the human mind is this same power, not in so far as it is infinite, and perceives the whole of Nature, but in so far as it is finite and perceives only the human Body, and in this way I declare that the human Mind is a part of a certain infinite intellect.

But it would be too long a business accurately to explain and prove here all these things, and all that is connected with them, and I do not think that you expect me to do so at the moment. Indeed I am not sure that I have rightly understood your meaning, and so have not answered something different from what you asked. This I should like to find out from you.

As to your next remark, that I hinted that the Cartesian Laws of motion are nearly all false, if I remember rightly, I said that Mr. Huygens thinks so. Nor did I say that any law is false except the sixth Law of Descartes, and even about that I said that I think Huygens too is mistaken. On that occasion I begged you to communicate to me the experiment which you have tried according to this hypothesis in your Royal Society. But I gather

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that you are not allowed to do so, since you give me no answer on that point.

The said Huygens was, and is still, fully occupied in polishing dioptrical glasses. For this purpose he has constructed a machine, in which he can turn tools, and it is indeed sufficiently neat. But I do not yet know what advance he has made thereby, nor, to confess the truth, do I greatly desire to know. For experience has taught me sufficiently that in spherical tools it is safer and better for glasses to be polished with a free hand than by any machine. Of the success of his pendulums, and the date of his moving to France I cannot as yet write anything certain.

The Bishop of Munster after having foolishly entered Frisia, like Aesop's goat entered the well, has made no progress. Indeed, unless the winter begins very early he will not leave Frisia except with great loss. There is no doubt that he dared to attempt this adventure through the persuasions of some traitor or other. But these things are too old to be written as news, and nothing new has happened in this week or two that is worth writing about. There appears no hope of peace with the English. A rumour, however, has lately been spread because of the conjectured significance of a Dutch ambassador having been sent to France, and also because of the people of Overijssel, who are doing their utmost to introduce the Prince of Orange, in order, as many think, to inconvenience the Dutch rather than to benefit themselves, and have dreamed of a plan of sending the said prince to England as a mediator. But the matter is clearly different. The Dutch at present do not think of peace even in their dream, unless matters come to the point where they can buy peace. There is still some doubt about the plans of the Swede. Many think that he is trying for Mainz, others for the Dutch. But these are no more than conjectures.

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I wrote this letter last week. But I could not send it, because the wind prevented my going to the Hague. That is the disadvantage of living in the country. It is but rarely that I receive a letter when it is due, for unless there is by chance an opportunity of sending it here at the time, then a week or two passes before I receive it. Then not infrequently there is a difficulty about my being able to send it in due time. Therefore when you see that I do not answer you as promptly as I should, you must not think that this is due to my forgetting you. Meanwhile time urges me to bring this to an end. Of the rest on another occasion. Now I can say no more than that I ask you to give a hearty greeting from me to the very Noble Mr. Boyle, and to remember me who am

In all affection yours

B. DE SPINOZA.

VOORBURG, 20 *November* 1665.

I desire to know whether all astronomers think that there were two comets on the ground of their motion or only in order to maintain Kepler's hypothesis. Farewell.

To MR. HENRY OLDENBURG,
SECRETARY OF THE ROYAL SOCIETY,
IN THE PALL MALL,
IN ST. JAMES'S FIELDS,
IN LONDON.

LETTER XXXIII

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

[Reply to the Preceding.]

MOST DISTINGUISHED SIR, MUCH HONOURED FRIEND,
Your philosophic reflections on the agreement and connection of the parts of Nature with the whole

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give me much pleasure, although I do not follow sufficiently how we can exclude order and symmetry from Nature, as you seem to do; especially as you yourself admit that all its bodies are surrounded by others, and are mutually determined in a definite and constant manner both as to their existence and their action, while the same proportion of motion to rest is always conserved in all things, which seems to me to be itself the sufficient ground of a true order. But perhaps in this I do not understand you sufficiently, any more than I did with regard to what you had written before about the Laws of Descartes. Would that you would undertake the trouble of teaching me wherein you think that both Descartes and Huygens were mistaken about the laws of motion. By doing me this service you would make me very thankful, and with all my might I would strive to deserve well of you.

I was not present when Mr. Huygens performed here in London the Experiments confirming his Hypothesis. I have learned since then that, among other experiments, he suspended a ball, weighing one pound, after the manner of a pendulum, which, when it was released, struck another ball, suspended in the same way but weighing only half a pound, from an angle of forty degrees, that Huygens, by means of a very brief Algebraical Calculation had predicted the effect and that this answered exactly to the prediction. A certain distinguished man who has proposed many such experiments which Huygens is said to have solved, is away. As soon as I am able to meet this man who is now away I will perhaps explain the matter to you more fully and more exactly. Meanwhile I pray you again and again not to decline the above request of mine, and moreover not to mind communicating to me also anything you may have learnt about the success of Huygens in the polishing of Telescopic Glasses. I hope, now that, by the grace

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of God, the plague is noticeably less violent, our Royal Society will shortly return to London, and resume its weekly meetings. You may be sure that I shall communicate to you any of its proceedings that are worth knowing.

I have mentioned before some Anatomical Observations. Mr. Boyle (who greets you very kindly) wrote to me not so long ago, that certain distinguished Anatomists at Oxford had assured him that they had found the windpipe both of sheep and of oxen filled with grass; and that a few weeks ago the said Anatomists had been invited to look at an ox, which for two or three days had held its neck almost continually stiff and straight up, and had died of a disease quite unknown to its owners. When the parts connected with the neck and throat were dissected, they found to their surprise that its windpipe right inside the very trunk was almost entirely filled with grass, as if someone had rammed it in by force. This furnished a suitable cause for inquiring both how such a great quantity of grass got there, and how, when it was there, the animal could survive for such a long time?

Moreover, the same friend informed me that a certain inquiring Doctor, also of Oxford, had found milk in human blood. He relates about a girl who had had rather a large breakfast at seven in the morning and whose foot was bled at eleven on the same day. The first blood was collected in a dish and after a short interval of time took on a white colour. But the subsequent blood flowed into a smaller vessel which, unless I am mistaken, they call *acetabulum* (in English, a sawcer), and this blood immediately took the form of a cake of milk. Five or six hours later the Doctor returned and inspected both lots of blood. That which was in the dish was half blood, but half chyleform, and this chyle floated in the blood as whey in milk. But the blood which was

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collected in the saucer was all chyle, without any appearance of blood. When he heated each of the two over the fire separately, both liquids grew hard. The girl, however, was quite well, and was only bled because she had never had her monthly courses although she was well and had a good colour.

But I turn to Politics. Here there is a rumour in everybody's mouth that the Jews, who have been dispersed for more than two thousand years, are to return to their country. Few in this place believe it, but many wish it. You will tell your friend what you hear and think about this matter. For my part I cannot put any confidence in this News so long as it is not reported by trustworthy men from the City of Constantinople, which is concerned in this most of all. I should like to know what the Jews in Amsterdam have heard about the matter, and how they are affected by such an important announcement, which if it were true would seem to bring a crisis on the whole world.

There appears as yet no hope of Peace between England and the Netherlands.

Explain to me, if you can, what the Swede and the Brandenburger are driving at ; and believe me to be

Your most devoted

HENRY OLDENBURG.

LONDON, *8th December* 1665.

P.S.—I will shortly tell you, God willing, what our philosophers think about the recent comets.

LETTER XXXIV

B. D. S.

TO THE HIGHLY ESTEEMED AND PRUDENT
MR. JOHN HUDDE.

MOST ESTEEMED SIR,

The proof of the Unity of God on the ground that His nature involves necessary existence, for which

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you asked and which I undertook to give, I have been unable to send before this, on account of certain pre-occupations. In order to do so I will suppose

I. That the true definition of each thing includes nothing but the simple nature of the thing defined. Hence it follows

II. That no definition involves or expresses a multitude or a definite number of individuals ; since it involves and expresses nothing else than the nature of the thing as it is in itself. For instance the definition of a triangle includes nothing else than the simple nature of a triangle, but not a definite number of triangles ; just as the definition of Mind, that it is a thinking thing, or the definition of God, that He is a perfect Being, includes nothing else than the nature of Mind and of God ; but not a definite number of Minds or of Gods.

III. That of each existing thing there must necessarily be a positive cause through which it exists.

IV. That this cause must be placed either in the nature and the definition of the thing itself (namely because existence belongs to its nature, or this necessarily includes it) or outside the thing.

From these presuppositions it follows that if there exists in Nature a definite number of individuals, there must be one or more causes which could produce just that number of individuals, no greater and no less. If, for instance, there exist in Nature twenty men (in order to avoid confusion I shall suppose them all to exist at the same time and to be the first men to exist in Nature), then in order to give the reason why there exist twenty men, it is not enough to investigate the cause of human nature in general ; but we must also investigate the reason why there are no more and no less than twenty men in existence. For (according to the third supposition) a reason and cause must be assigned for the existence of every man. But this cause (according to

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the second and third supposition) cannot be contained in the nature of man himself: for the true definition of man does not involve the number of twenty men. And so (according to my fourth supposition) the cause of the existence of these twenty men, and therefore of the existence of each individually, must be found outside them. Hence we must absolutely conclude that all things which are conceived as existing many in number are necessarily produced by external causes and not by the force of their own nature. But since (according to supposition) necessary existence belongs to the nature of God, it is necessary that His true definition should also include necessary existence: and therefore His necessary existence must be inferred from the true definition of Him. But from the true definition of Him (as I have already proved before from my second and third supposition) the necessary existence of many Gods cannot be inferred. There follows, therefore, the existence of one God only. This is what was to be proved.

This, most esteemed Sir, seems to me now the best method of proving the proposition. Formerly I proved the same proposition otherwise, by applying the distinction between Essence and Existence; but considering what you pointed out to me, I preferred to send you this proof. I hope it will satisfy you, and I shall await your judgment on it, and meanwhile remain, etc.

VOORBURG, 7th January 1666.

LETTER XXXV

B. D. S.

TO THE HIGHLY ESTEEMED AND PRUDENT
MR. JOHN HUDDE.

MOST ESTEEMED SIR,

In your last letter, written on the 30th of March, you have made quite clear what was somewhat obscure

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to me in the letter you wrote to me on the 10th of February. Since, then, I now know what you really think, I will put the question in the form in which you conceive it, that is, whether there can only be one Being which subsists in virtue of its own sufficiency or force. I not only affirm this, but also undertake to prove it, namely, from the fact that its nature involves necessary existence. This can be most easily proved from the understanding of God (as I explained in Proposition XI of my *Geometrical Proofs of the Principles of Descartes*), or it can be proved from the other attributes of God. In order, then, to attack this problem, let me first briefly point out what properties must be possessed by a Being that includes necessary existence. These are—

I. It must be eternal: for if a limited duration were attributed to it, then that Being would be conceived as not existing, or as not involving necessary existence, beyond that limited duration. This is inconsistent with its definition.

II. It must be simple, not composed of parts. For in Nature and in our knowledge the component parts of a thing must be prior to that which is composed of them. This is out of place in that which is by its own nature eternal.

III. It cannot be conceived as limited, but only as infinite. For if the nature of this Being were limited, and were also conceived as limited, then beyond those limits that nature would be conceived as non-existent. This again is inconsistent with its definition.

IV. It must be indivisible. For if it were divisible it could be divided into parts either of the same or of a different nature. In the latter case it could be destroyed, and so not exist. This is contrary to the definition. In the former case, each part would contain necessary existence in itself, and thus one part could exist and consequently be conceived apart from another, and

therefore that Nature could be understood as finite. This according to the foregoing is contrary to the definition. Hence we may see that if we want to ascribe any imperfection to a Being of this kind, we immediately fall into contradiction. For whether the imperfection which we want to impute to such a Nature consists in some defect, or in certain limitations which a nature of this kind is alleged to possess, or in some change which through lack of strength, it could suffer from external causes, we are always brought back to this, that this Nature, which involves necessary existence, does not exist, or does not exist necessarily. And therefore I conclude,

V. That everything which includes necessary existence can have in itself no imperfection, but must express pure perfection.

VI. Moreover, since it can only be the result of perfection that a Being should exist by its own sufficiency and power, it follows that if we suppose a Being which does not express all perfections to exist by its own nature, then we must also suppose that there exists also that Being which does include in itself all perfections. For if a Being which is endowed with less power exists through its own sufficiency, how much more must that exist which is endowed with the greater power.

Lastly, to come to our problem, I assert that there can only be one Being whose existence belongs to its nature, that is, that Being only which possesses all perfections in itself, and which I shall call God. For if there be assumed a Being to whose nature existence belongs, that Being must contain no imperfection, but (according to note 5) must express every perfection. And therefore the nature of that Being must belong to God (whom, according to note 6, we must also assert to exist), since He possesses in Himself all perfections and no imperfections. And it cannot exist outside God. For if it

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were to exist outside God, one and the same Nature, which involves necessary existence, would exist as two, which, according to our previous proof, is absurd. Therefore nothing outside God, but God alone, involves necessary existence. This is what was to be proved.

These, most esteemed Sir, are the things which I can at present contribute towards the proof of this matter. I should like to be able to prove also that I am, etc.

B. D. S.

VOORBURG, 10th April 1666.

LETTER XXXVI

B. D. S.

TO THE VERY HONOURABLE AND PRUDENT
MR. JOHN HUDDE.

MOST HONOURABLE SIR,

I was unable (on account of some obstacle) to reply sooner to your letter written on the nineteenth of May. But since I observe that for the most part you suspend your judgment about my proof which I sent you (I believe on account of the obscurity which you find in it), I will endeavour here to explain its meaning more clearly.

First, then, I enumerated four properties which a Being, existing in virtue of its own sufficiency or force, must possess. These four and the remaining similar properties I reduced to one in the fifth note. Then, in order to deduce all that was necessary for my proof from the single supposition, I endeavoured in the sixth note to prove the existence of God from the given supposition; and thence, lastly, assuming nothing more to be known than the simple meaning of the words, I came to the conclusion which was sought.

This, briefly, was my intention, this was my aim. Now I will explain the meaning of each link separately, and first I will begin with the assumed properties.

In the first you will find no difficulty. It, as also the second, is nothing else than an Axiom. For by simple I mean no more than that it is not composite or composed of parts which are different by nature, or of others which agree in their nature. The proof is certainly universal.

You have very well understood the meaning of the third (namely, to this purport, that if the Being is Thought it cannot be conceived as limited in Thought, if the Being is Extension, it cannot be conceived as limited in Extension, but only as unlimited). You say however that you do not understand the conclusion based on this, that it is a contradiction to conceive under the negation of existence something whose definition includes existence, or (what is the same thing) affirms existence. And since *limited* denotes nothing positive, but only privation of the existence of the same nature which is conceived as limited, it follows that that the definition of which affirms existence, cannot be conceived as limited. For instance, if the term *extension* includes necessary existence, it will be just as impossible to conceive extension without existence, as extension without extension. If this is granted it will also be impossible to conceive limited extension. For if it is conceived as limited it must be limited by its own nature, that is, by extension; and this extension, by which it would be limited, would have to be conceived under the negation of existence. This, according to supposition, is a manifest contradiction.

In the fourth I wished only to show that such a Being cannot be divided into parts of the same nature or into parts of a different nature, whether those which are of a different nature involve necessary existence, or not. For, I said, if the latter were the case, it could be destroyed, since to destroy a thing is to resolve it into such parts that none of them expresses the nature of the whole;

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but if the former were the case, it would be inconsistent with the three properties already formulated.

In the fifth I only presupposed that perfection consists in being, and imperfection in the privation of being. I say *privation*; for although, for instance, extension negates thought of itself, this in itself is no imperfection in it. But it would argue imperfection in it, if it were to be deprived of extension, as would actually happen if it were limited, similarly if it lacked duration, position, etc.

You entirely admit the sixth: and yet you say your difficulty remains untouched (the difficulty, namely, why there cannot be several beings, existing through themselves, but differing in nature, just as thought and extension are different and can perhaps subsist through their own sufficiency). From this I can only judge that you have understood it in a very different sense from me. I am sure that I see in what sense you understand it, but in order not to lose any time, I will only explain my own meaning. I say, then, with regard to the sixth, that if we assume that something which is only unlimited and perfect of its kind exists by its own sufficiency, then we must also admit the existence of a being that is absolutely unlimited and perfect; which Being I shall call God. For if, for instance, we wish to assert that extension, or thought (which can be perfect each in its own kind, that is, in a certain kind of being) exist by their own sufficiency, we shall also have to admit the existence of God, who is absolutely perfect, that is, the existence of an absolutely unlimited being.

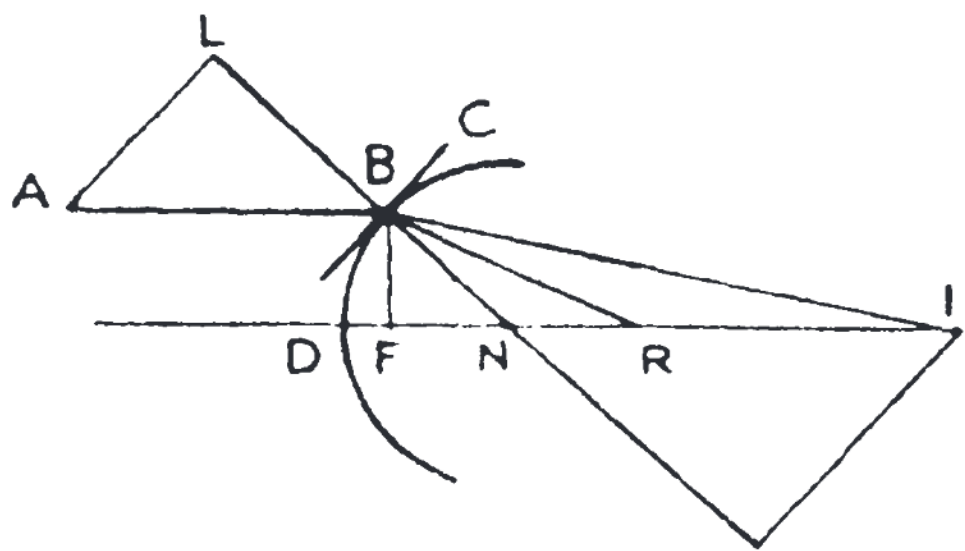
Here I would have you note what I have just said with regard to the word *imperfection*, namely, that this means that a thing lacks something which nevertheless belongs to its nature. For instance, Extension can only be said to be imperfect in respect of duration, position, or quantity, namely, because it does not last longer, or

does not retain its position, or is not greater. But it can never be said to be imperfect because it does not think, since nothing of this kind is required by its nature, which consists only in extension, that is, in a certain kind of being, in respect of which alone it can be said to be limited or unlimited, imperfect or perfect. And since the nature of God does not consist of a certain kind of being but of absolutely unlimited being, His nature also requires all that perfectly expresses *being*; otherwise His nature would be limited and deficient. This being so, it follows that there can only exist one Being, namely God, which exists by its own force. For if, for example, we assume that extension involves existence, so that it is eternal and unlimited, it is also necessary that it should express absolutely no imperfection but only perfection: and so Extension will belong to God, or will be something which in some way expresses the nature of God, since God is a Being that is not only in a certain respect but absolutely unlimited in essence, and omnipotent. And this which is said of Extension (by way of an arbitrary illustration) will also have to be asserted of everything that we may want to set up as having such a nature. I conclude, therefore, as in my former letter, that nothing besides God, but only God, subsists by His own sufficiency. I believe that this is enough to explain the meaning of my former letter, but of this you will be the better judge.

With these words I might end: but since I have a mind to get new tools made for me for polishing glasses, I should like to hear your advice on the matter. I do not see what advantage we obtain by polishing convex-concave glasses. On the contrary, convex-plane lenses must be more useful, if I have made the calculation correctly. For if (for convenience) we put the ratio of refraction at 3 to 2, and in the accompanying figure

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append letters as you put them in your small Dioptrics, it will be found from the prescribed equation that N I or, as it is called, $z = \sqrt{\frac{9}{4}zz - xx} - \sqrt{1 - xx}$. Whence it follows that if $x = 0$, z will $= 2$, which will then also be the longest. And if $x = \frac{3}{5}$, z will $= \frac{4}{5}$, or a little more ; that is, if we suppose that the ray B I does not suffer a second refraction when it turns from the glass towards I. But let us now suppose that this ray on issuing from the glass is refracted at the plane surface B F and that it turns, not towards I, but towards R. When therefore the lines B I and B R are in the same ratio as the refraction, that is (as was here supposed) of 3 to 2, and if we then follow the trend of the equation, we get $NR = \sqrt{zz - xx} - \sqrt{1 - xx}$. And if again, as before, we put $x = 0$, N R will $= 1$, that is, equal to half the diameter. But if $x = \frac{3}{5}$, N R will $= \frac{2}{5} + \frac{1}{50}$.



This shows that this focal length is smaller than the other, although the optic tube is less by a whole semi-diameter. So that if we were to make a Telescope as long as D I by

making the semi-diameter $= 1\frac{1}{2}$, while the aperture B F remained the same, the focal length would be much less. Moreover, the reason why convex-concave glasses are less satisfactory is that, besides requiring double the labour and expense, the rays, since they are not all directed towards one and the same point, never fall perpendicularly on the concave surface. But as I have no doubt that you have already considered these things before now, and have invoked more accurate calculations, and have finally decided this very question, I ask your opinion and advice on this matter, etc.

[VOORBURG, about June 1666.]

LETTER XXXVII—TO BOUWMEESTER 1666

LETTER XXXVII

B. D. S.

TO THE VERY LEARNED AND EXPERT
MR. JOHN BOUWMEESTER.

MOST LEARNED SIR, EXCELLENT FRIEND,

I have been unable to answer sooner your last letter which I received long ago. I have been so hindered by various preoccupations and cares that I could scarcely free myself from them in the end. But, since I can collect my thoughts again to some extent, I do not want to fail in my duty, but wish as soon as possible to give you very many thanks for your love and devotion towards me, which you have very often shown by your actions, but to which you have now borne enough and more than enough witness in your letter, etc.

I now pass to your question which is as follows—*whether there is or can be such a Method that by means of it we can proceed safely and without weariness in the consideration of the most exalted subjects? or whether like our bodies, our minds also are subject to accidents, and our thoughts are governed more by chance than by art?* These questions I think I shall satisfy if I show that there must necessarily be a Method by which we can direct and concatenate our clear and distinct conceptions, and that the understanding is not, like the body, subject to accidents.

This, indeed, follows from this alone, that one clear and distinct conception, or several together, can absolutely be the cause of another clear and distinct conception. Nay, rather, all the clear and distinct conceptions which we form can only arise from other clear and distinct conceptions which are in us; they acknowledge no other cause outside us. Whence it follows that whatever clear and distinct conceptions we form depend only on our nature and its definite and fixed laws, that is, on our absolute power, and not on chance

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that is, on causes which, though they also act according to definite and fixed laws, are unknown to us, and are foreign to our nature and power. As regards the other conceptions, I admit that they depend to the greatest extent possible upon chance. Therefore it seems clear what the true Method must be, and in what it especially consists, namely, only in the knowledge of the pure understanding, and of its nature and laws. In order to acquire this, we must first of all distinguish between understanding and imagination, or between true ideas and the rest, namely, the fictitious, the false, the doubtful, and absolutely all those which depend only on the memory. To understand this, at least as far as the Method requires, there is no need to know the nature of the mind through its first cause ; it is enough to get together a short account of the mind or of conceptions in the way in which Verulam teaches.

I think I have in these few words explained and proved the true Method, and at the same time indicated the way by which we may attain to it. It remains, however, to warn you that for all these there are required incessant thought and a most constant mind and purpose. To gain these, it is first of all necessary to adopt a definite mode and plan of life, and to set before one a definite end. But enough of these things for the present, etc.

Farewell and love him who sincerely loves you,
BENED. DE SPINOSA.

VOORBURG, 10 *June* 1666.

LETTER XXXVIII

B. D. S.

TO THE VERY ILLUSTRIOUS MR. JOHN VAN DER MEER.

SIR,

While living in solitude here in the country I reflected on the question which you have proposed to me, and found that it was very simple. The Universal

Proof of it is based on this, that the fair player in a game of chance is he who makes his chance of winning or losing equal to that of his opponent. This equality* consists in the prospect and the money which the opponents stake and risk; that is, if the prospect is the same for both sides, then each must stake and risk the same amount of money; but if the prospects are unequal, then one player must stake and put in as much more money as his prospect is greater, and in this way the chances of both sides become equal, and the game will be a fair one. If, for example, A when playing with B, has two prospects of winning and only one of losing, while B, on the other hand, has only one prospect of winning and two of losing, it seems clear that A must risk as much for each prospect as B risks for his, that is, A must risk twice as much as B.

In order to show this still more clearly let us suppose that three persons, A, B, C, play together with equal chances, and that each stakes an equal sum of money. It is clear that, since each stakes an equal sum of money, each also risks only a third in order to gain two-thirds, and that, since each is playing against two, each also has only one prospect of winning thereby against two of losing thereby. If we suppose that one of these three, namely C, withdraws before the game has begun, it is clear that he may only take back what he staked, that is, a third part, and that B, if he wants to buy C's chance, and take his place, must stake as much as C takes back. To this A cannot object: for it makes no difference to him whether he must rely on one chance against two chances of two different men, or of one man. If this is so, then it follows that if anyone holds out his hand for another to guess one out of two numbers in order to win a certain sum of money if he guesses the right number or to lose an equal sum of money if he does not

* So the Latin version; the Dutch has "chance."

CORRESPONDENCE OF SPINOZA

guess it, then the chance is equal for both sides, namely, for him who invites the guess as well as for him who must make the guess. Again, if he holds out his hand for another to guess at the first attempt one number out of three and win a certain sum of money if he guesses the right number, or lose half that sum if he does not guess it, then both sides will have an equal chance, just as both sides have an equal chance if he who holds out his hand allows the other two guesses, on condition that, if he guesses rightly, he wins a certain sum of money, or if he does not guess rightly, he loses double the amount.

The chance is also equal if he allows him to make three guesses at one of four numbers, in order to win a certain sum of money if he is right, or otherwise to lose three times as much; or if he is allowed four attempts to guess one of five numbers, in order to win one amount or to lose fourfold, and so forth. From all this it follows that it is just the same to him who holds out his hand and allows another to guess, if the other guesses one number out of many as many times as he likes, so long as, in return for the number of his guesses, he also stakes and risks as much money as is proportionate to the number of attempts divided by the sum of the numbers. If, for instance, there are five numbers, and the one is not allowed to make more than one guess, he must stake only $\frac{1}{5}$ against the $\frac{4}{5}$ of the other; if he is to guess twice he must risk $\frac{2}{5}$ against the other's $\frac{3}{5}$; if three times $\frac{3}{5}$ against the other's $\frac{2}{5}$; and so forth, $\frac{4}{5}$ against $\frac{1}{5}$, and $\frac{5}{5}$ against $\frac{0}{5}$. Consequently, it is just the same for him who allows others to guess, if, for example, he only risks $\frac{1}{6}$ of the total stakes in order to win $\frac{5}{6}$, whether one man guesses five times or five men each guess once. Such is the purport of your Question.

[VOORBURG] 1 October 1666.

LETTER XXXIX

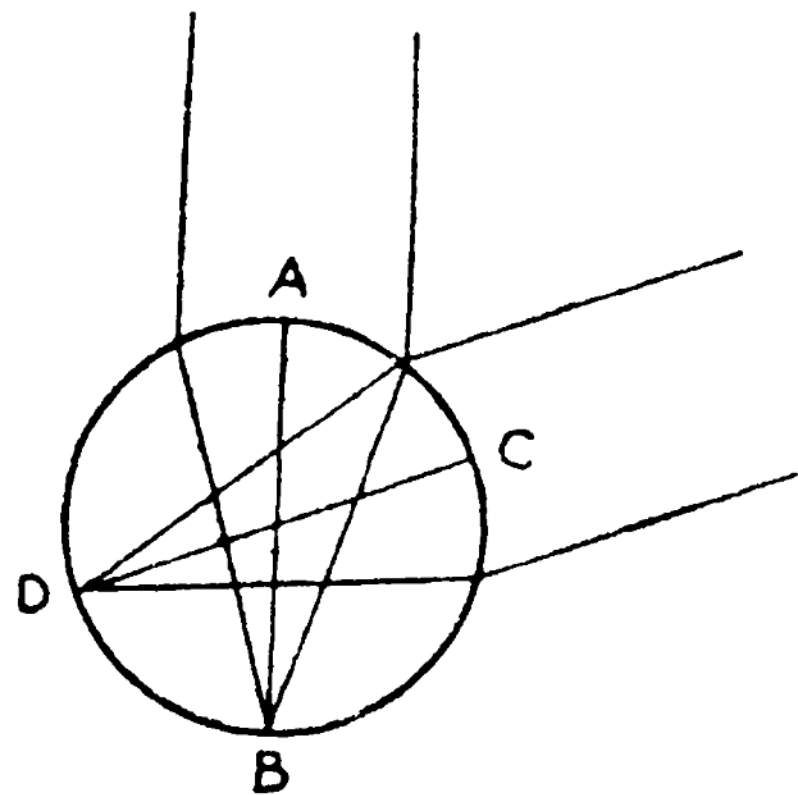
B. D. S.

TO THE VERY COURTEOUS AND PRUDENT MR. JARIG JELLES.

WORTHY FRIEND,

Various obstacles have hindered me from answering your letter sooner. I have looked up what you pointed out with regard to Descartes' *Dioptrics*. He mentions no other cause, why the images at the back of the eye become larger or smaller, than the crossing of the rays which come from different points of the object, namely, according as they begin to cross each other nearer to or further from the eye, and he does not consider the size of the angle which these rays make when they cross each other at the surface of the eye. And although this last cause is the most important, which must be considered in the case of telescopes, yet he wanted, it seems, to pass it over in silence, because, as it appears, he knew of no means of gathering the rays coming in parallel lines, from different points, in as many other points. And therefore he could not mathematically determine this angle.

Perhaps he was silent about it in order not to put the circle in any way above the figures which he had introduced. For it is certain that in this matter the circle surpasses all other figures which can be discovered. For the circle being everywhere the same, has everywhere the same property. For instance, the circle A B C D has this property, that all rays parallel to the axis A B or coming from the direction A, are refracted at its surface in such a way that they afterward all come together at the point B. Similarly,



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all rays parallel to the axis CD , and coming from the direction C , will be refracted at the surface in such a way that they will all come together at the point D . This can be said of no other figure, although Hyperbolas and Ellipses also have infinite diameters. The fact is, therefore, as you write, namely, if nothing else is taken into consideration except the length of the eye or of the telescope, we should be obliged to make very long telescopes before we could see the objects on the Moon as distinctly as the objects which we have here on the earth. But, as I have said, it turns chiefly on the size of the angle which is formed by the rays coming from different points, at the surface of the eye, when they cross each other there. And this angle also becomes greater or less according as the foci of the glasses put in the telescope are more or less distant. If you desire to see the proof of this, well then, I am ready to send it when you like.

VOORBURG, 3 *March* 1667.

LETTER XL

B. D. S.

TO THE VERY COURTEOUS AND PRUDENT MR. JARIG JELLES.

WORTHY FRIEND,

I have duly received your last letter written on the fourteenth of this current month, but, owing to various hindrances, I could not answer it sooner. With regard to the matter relating to Helvetius, I have spoken about it with Mr. Vossius who (not to relate in a letter all that we said to each other) ridiculed it greatly, and expressed surprise that I should inquire of him about such a trivial thing. Taking no notice of this I went nevertheless to the silversmith, named Brechtelt, who had tested the gold. But he, speaking very differently from Vossius, said that between smelting and separation

the gold had increased in weight and had become heavier by as much as the weight of the silver that he had put into the smelting crucible for the purpose of the separation. Therefore he firmly believed that this gold which transmuted his silver into gold, contained something uncommon. He was not the only one who found this so, but various other men who were present at that time did so too. After this, I went to Helvetius himself, who showed me the gold and the crucible which was still gilded on the inside, and said to me that he had thrown into the melted lead not more than about one-fourth part of a grain of barley or of mustard seed. He added that within a short time he would publish an account of the whole matter, and further said that at Amsterdam a man (and he thought it was the same man as had called on him) had performed the same operation, of which you will doubtless have heard. This is all that I was able to learn about this matter.

The writer of the little book about which you write (in which he presumes to show that the arguments in Descartes' third and fifth Meditation, by which he proves the existence of God, are false) is certainly fighting his own shadow, and will harm himself more than others. Descartes' axiom is, I confess, somewhat obscure and confused, as you have also remarked, and he would have expressed it more clearly and truly thus : *That the power of Thought to think about or to comprehend things, is not greater than the power of Nature to exist and to act.* This is a clear and true axiom, according to which the existence of God follows very clearly and validly from the idea of Him. The argument of the said author of which you give an account shows clearly enough that he does not yet understand the matter. It is indeed true that we may go on to infinity if thereby we would solve the question in all its parts : but otherwise it is very silly. For example, if some one asked by what such a

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finite body is set in motion, it is possible to answer that it is determined to such a motion by another body, and this body again by another, and so on to infinity. This answer, I say, is possible, because the Question is only about the motion, and by positing each time another body, we assign a sufficient and eternal cause of such motion. But if I see a book containing excellent thoughts which is written beautifully, in the hands of a common man, and I ask him whence he has such a book, and he thereupon answers that he has copied it from another book in the possession of another common man who can also write beautifully, and so on to infinity, then he does not satisfy me. For I am asking him not only about the form and arrangement of the letters, about which alone he answers me, but also about the thoughts and meaning which their arrangement expresses, and this he does not answer by thus going on to infinity. How this can be applied to ideas may easily be understood from what I have explained in the ninth axiom of my *Mathematical Proofs of Descartes' Principles of Philosophy*.

I now proceed to answer your other letter, dated the ninth of March, in which you ask for further explanation of what I wrote in my previous letter about the figure of the circle. This you will easily be able to grasp if you will only please notice that all the rays which are supposed to fall in parallel lines on the anterior glass of a telescope are not really parallel because they all come from one and the same point. But they are considered such, because the object is so far from us that the opening of the telescope, in relation to its distance, may be considered simply as a point. Moreover, it is certain that, in order to see a whole object, we need not only the rays from a single point, but also all the other cones of rays which come from all the other points. And therefore it is also necessary that when they pass through the glass they should come together in as many

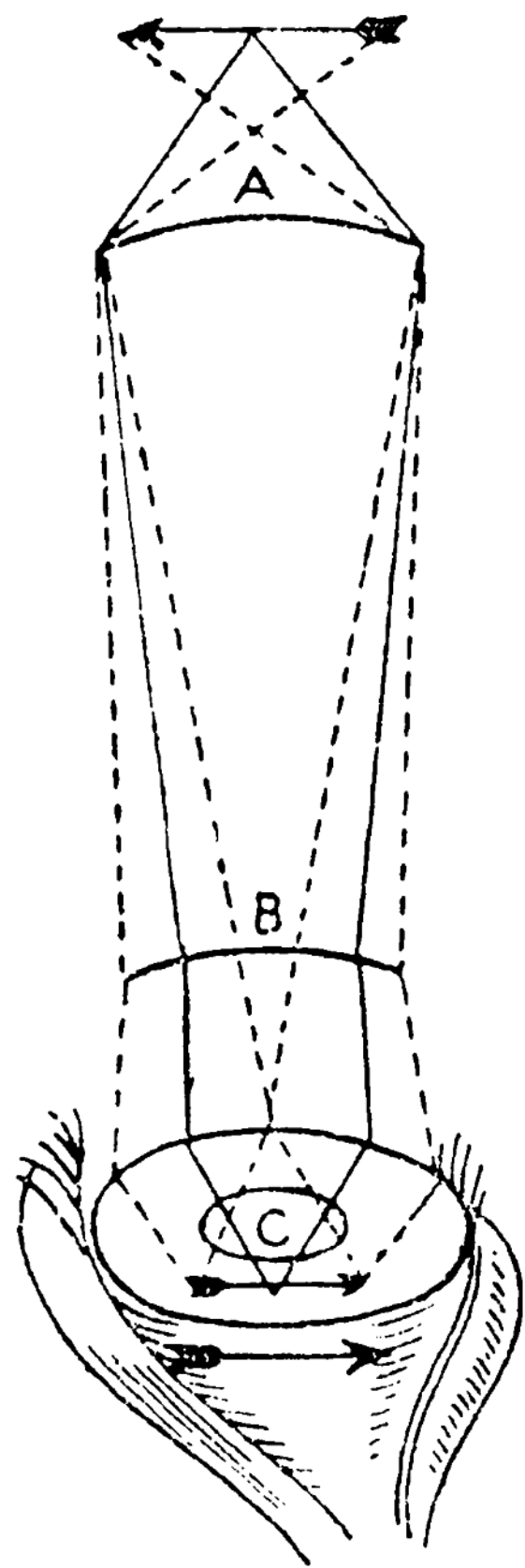
other foci. And although the eye is not so exactly constructed that all the rays which come from different points of an object come together exactly in so many foci at the back of the eye, yet it is certain that the figures which can bring this about, must be ranked above all others. And since a definite segment of a circle is able to bring it about that all the rays which come from one point are (speaking according to Mechanics) brought together in another point on its diameter, it will also bring together all the other rays, which come from the other points of the object, at so many other points. For from any point in the object a line can be drawn which passes through the centre of the circle, although for that purpose the opening of the telescope must be made much smaller than it would otherwise be made if there were no need of more than a single focus, as you will easily be able to see.

What I say here of the circle cannot be said of the Ellipse, or the Hyperbola, much less of other more complex figures, since only from a single point in the object can a line be drawn which passes through both their foci. This is what I wanted to say in my first letter about this matter.

From the attached diagram you will be able to see the proof that the angle formed at the surface of the eye by the rays coming from various points, is greater or less according as the foci are more or less distant. So, after sending you cordial greeting, there remains nothing but to say that I am, etc.,

B. DE S.

VOORBURG, 25 of March, 1667.



CORRESPONDENCE OF SPINOZA

LETTER XLI

B. D. S.

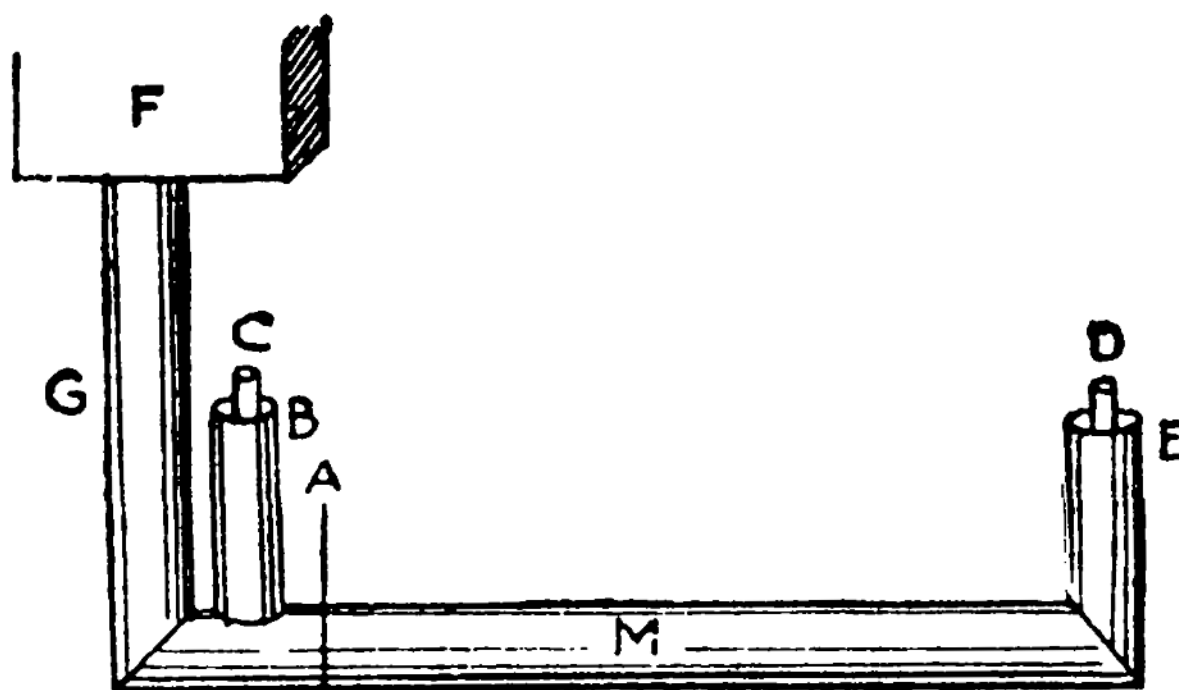
TO THE VERY COURTEOUS AND PRUDENT MR. JARIG JELLES.

SIR,

I will here relate in a few words what I have discovered by experiment in regard to the matter about which you asked me first by word of mouth and then in writing. To this I will add what I now think on the subject.

I had a wooden tube made for me 10 feet long with a bore of $1\frac{2}{3}$ inches. To this I fixed three perpendicular tubes as shown in the attached figure.

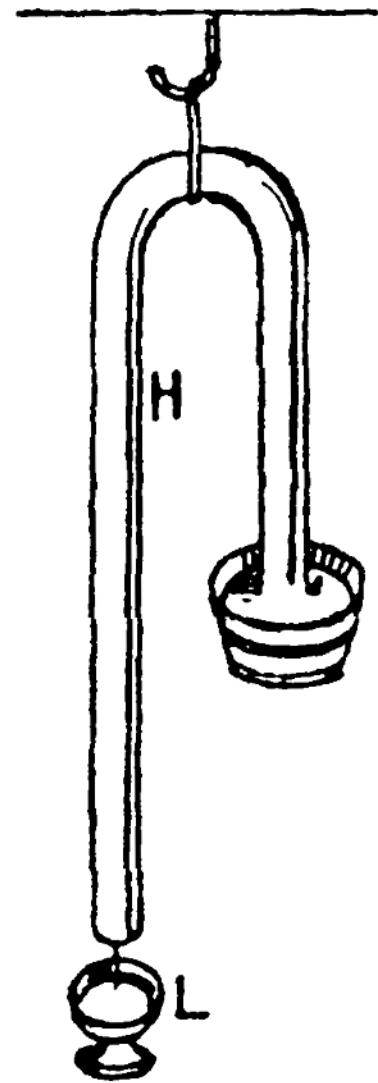
In order to discover first whether the pressure of



water in tube B was as great as in E, I closed the tube M at A with a small board made for that purpose. I then made the mouth of B so narrow that it could hold a narrow glass tube like C. When I had filled the tube with water by means of the vessel F, I took note of the height to which the water rose in the narrow tube C. I then closed the tube B, and removing the small board A, allowed the water to flow into the tube E, which I had prepared in the same way as B. And after I had refilled the whole tube with water I observed that it rose to the same height in D as it had done in C. This made me believe that the length of the tube was very little or no hindrance.

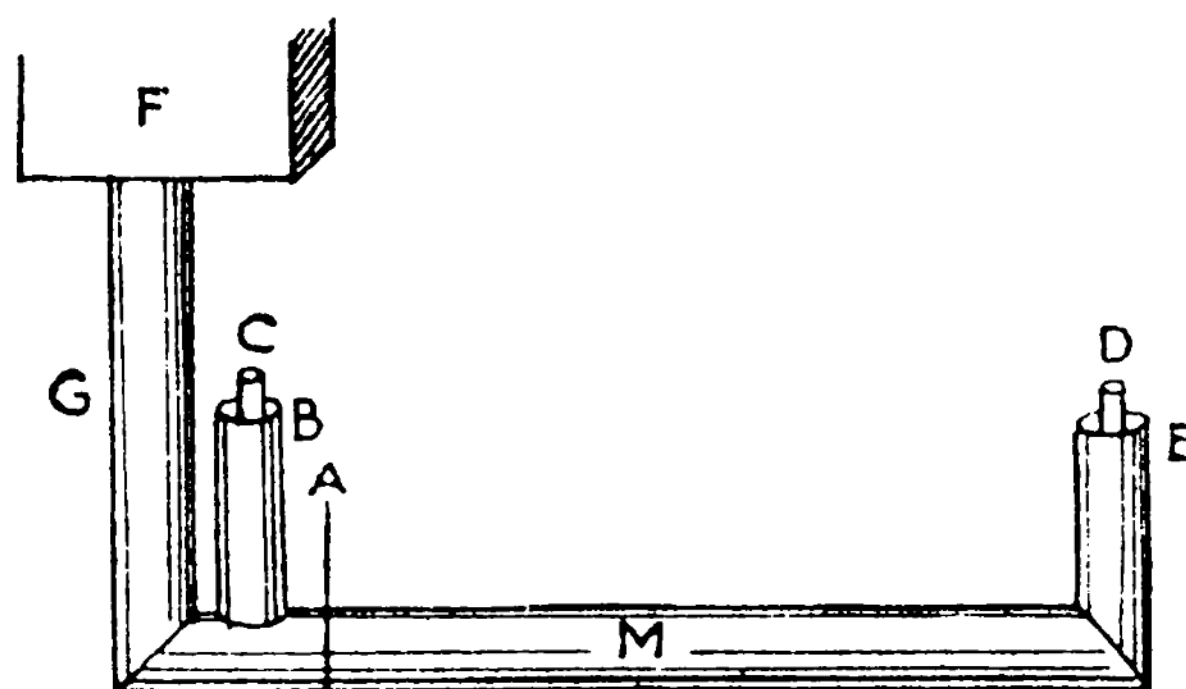
However, in order to investigate this more closely

I also sought to find out whether the tube E could also fill a vessel of a cubic foot which I had made for the purpose, in as short a time as B did. In order to measure the time, since I had no pendulum clock at hand, I made shift with a bent glass tube like H, whose shorter tube was immersed in water, while the longer hung in the free air. When I had all this ready, I first let the water through the tube B, in a stream as thick as the tube itself, until the vessel of a cubic foot was full. I then weighed with accurate scales how much water had meanwhile flowed into the small basin L, and I observed that it weighed about four ounces. I then closed the tube B, and let the water flow through the tube E, in a stream equally thick, into the vessel of a cubic foot. When this was full I weighed the water again, as before, which had meanwhile flowed into the small basin, and I found that it did not weigh even half an ounce more. But since the streams, from B as well as from E, did not continually flow with the same force, I repeated the operation, and I brought first as much water as we had found it necessary to have at hand from our experience the first time. There were three of us as busy as possible, and we prepared the above-mentioned experiment more accurately than before, though not as accurately as I could wish. I did, however, obtain sufficient evidence to enable me to some extent to come to a decision about this matter, because I found about the same difference on the second as on the first occasion. Considering the matter and these experiments I find myself compelled to conclude that the difference which the length of the tube can produce, takes place only at the beginning, that is, when the water begins its flow; but that when it has continued to flow for a little while, it will flow with as much force



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through a very long as through a short tube. The reason for this is that the pressure of the high water always retains the same force, and that all the motion which it communicates, it in turn derives continuously through the action of gravity; and therefore it will continue to communicate this motion to the water in the tube, until, being pushed on, it has acquired as much speed as the higher water can give it gravitational force. For it is certain that if the water in the tube G imparts to the water in the tube M one degree of speed in the first moment, then in the second moment, if it retains its original force, as it is supposed to do, it will communi-



cate four degrees of speed to this water, and so forth, until the water in the long tube M has received just as much velocity as the gravitational force can give the higher water, contained in the tube G. Therefore the water running through a tube forty thousand feet long would after a short time, and solely through the pressure of the higher water, acquire as much velocity as if the tube M were only one foot long. I could have determined the time required by the water in the longer tube to acquire so much speed, if I had been able to obtain more exact instruments. However, I think this is not necessary, because the main point is sufficiently determined, etc.

VOORBURG, 5 *September* 1669.

LETTER XLII—FROM VELTHUYSEN 1671

LETTER XLII LAMBERT DE VELTHUYSEN, M.DR.

TO THE VERY LEARNED AND HONoured
MR. JACOB OSTENS.

MOST LEARNED SIR,

I have at length obtained some free time, and at once applied my mind to satisfying your wishes and requests. Now you ask me to tell you my opinion, and pronounce my verdict, on the book entitled *Discursus Theologico-Politicus*. This I have now decided to do, as far as time and my capacity allow. I will not however go into details, but I will give a compendious account of the author's thought, and of his views on religion.

I do not know of what nationality he is, or what manner of life he follows, I am not even interested to know it. The argument of his book shows sufficiently that he is not dull-witted, and that he has not merely indolently and perfunctorily examined and looked into the religious controversies which are carried on in Europe between Christians. The writer of this book has convinced himself that he will be more favourably placed for examining the opinions through which men break up into factions, and divide into parties, if he lays aside and casts off prejudices. Therefore he has laboured more than enough to free his mind from every superstition. In attempting to show himself immune from this he has gone too far in the opposite direction, and in order to avoid the error of superstition, he seems to me to have cast off all religion. At all events he does not rise above the religion of the Deists, of whom (so evil are the morals of this age) there is a sufficiently large number everywhere, and especially in France. Mersenne published a treatise against them, which I remember reading once. But I think that scarcely any one of the number of the Deists has written on behalf of that

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thoroughly bad cause with such a malicious mind, and so cleverly and cunningly, as the author of this dissertation. Moreover, unless I am mistaken in my conjecture, this man does not include himself in the ranks of the Deists, and does not allow men to retain the least bit of religious worship.

He acknowledges God and confesses Him to be the maker and founder of the Universe. But he declares that the form, appearance, and order of the world are evidently as necessary as the Nature of God, and the eternal truths, which he holds are established apart from the decision of God. Therefore he also expressly declares that all things come to pass by invincible necessity and inevitable fate. And he asserts that with those who consider matters correctly there is no room for precepts and commands ; but that the ignorance of men has introduced names of this kind just as the inexperience of the people has made room for modes of speech whereby feelings are attributed to God. And so God also adapts Himself to man's comprehension when He reveals to men in the form of a command those eternal truths and the other things which must necessarily come to pass. He teaches that it is as necessary that those things, which are governed by laws, and are thought to be remote from the will of men, should come to pass, as that the nature of a triangle is necessary. And therefore those things which are embodied in precepts do not depend on the will of man, and will not, according as they are followed or evaded, procure for men any good or evil, any more than God's will can be influenced by prayers or His eternal and absolute decrees be changed. And so he teaches that the reason of these precepts and decrees is and comes to this, that the inexperience and ignorance of man have moved God to let them be of some use among those who cannot form more perfect thoughts about God, and who need such wretched aids to rouse

in them a love of virtue and a hatred of vices. And so we can see that the author makes no mention in his writing of the use of prayer, just as he makes no mention of life or of death, or of any reward or punishment, through which men are influenced by the judge of the universe.

He does this in accordance with his principles. For what room can there be for a last judgment? Or what expectation of reward or of punishment, when all things are attributed to fate, and all things are declared to emanate from God with inevitable necessity, or rather, when he declares that this whole universe is God? For I fear that our author is not very far removed from this opinion; at least there is not much difference between declaring that all things emanate necessarily from the nature of God and that the Universe itself is God.

However, he places man's highest pleasure in the cultivation of virtue, which he says is its own reward, and the sphere of all that is most important. And therefore he thinks that the man who understands things correctly ought to devote himself to virtue not because of the precepts and the law of God, or through hope of reward, or fear of punishment, but because he is attracted by the beauty of virtue, and the joy of mind which man experiences in the exercise of virtue.

And so he declares that only apparently does God, through the Prophets and revelation, exhort men to virtue by the hope of reward and the fear of punishment, which two are always connected in laws, since the mind of ordinary men is so constituted and so badly educated that they cannot be impelled to the exercise of virtue, except by arguments borrowed from the nature of laws, and from the fear of punishment, and from the hope of reward: but men who consider the matter truly, understand that there is no truth or force in arguments of this kind.

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He does not think it of any importance, although he is really overthrown by this axiom, that the Seers and holy Teachers, and so God Himself, since God spoke to men through their mouth, used arguments which, if their nature be considered, are in themselves false. For openly and in all sorts of places, when occasion arises, he professes and emphasizes that Holy Scripture is not intended to teach the truth and the nature of the things of which mention is made in it, and which it adduces for its own purpose to lead men to virtue; and he denies that the Prophets were so learned in these matters as to be altogether immune from the errors of the crowd in preparing arguments and thinking out reasons by means of which they stirred men to virtue, although the nature of moral virtues and vices was perfectly clear to them.

And therefore, moreover, the Author teaches that the Prophets, even when they were admonishing those to whom they were sent of their duty, were not entirely free from errors of judgment, but that their holiness and credibility were not diminished thereby, although they made use of speech and arguments which were not true, but adapted to the preconceived ideas of those to whom they spoke, and by means of them stimulated men to virtues, about which no man is ever in doubt, and over which there is no controversy among men. For the object of sending a Prophet was to promote the cultivation of virtue among men, not the teaching of any truth. And so he considers that this error and ignorance on the part of the Prophet was not harmful to his hearers whom he incited to virtue, since he thinks it matters little by what arguments we are incited to virtue so long as they do not upset the moral virtue to stimulate which they were intended and urged by the Prophet. For he thinks that the truth of other things which is perceived by the mind has no importance for piety, since moral holiness is in fact not contained in that

truth : and he thinks that the knowledge of truth and even of mysteries is more or less necessary according as they contribute more or less towards piety.

I think the author is referring to the axiom of those Theologians who distinguish between the discourse of a Prophet when he is enunciating a doctrine, and when he is simply narrating something, and this distinction, unless I am mistaken, is accepted by all Theologians, and he most erroneously believes that his opinion agrees with this doctrine.

Therefore he thinks that all those who deny that Reason and Philosophy are the interpreters of Scripture will follow his view. For since it is agreed by all that in Scripture innumerable things are predicated of God which do not befit Him, but are adapted to men's comprehension, so that men may be moved by them, and the love of virtue may be awakened in them, he thinks it must be asserted that the holy Teacher wished by these untrue arguments to educate men in virtue, or that liberty is allowed to everyone who reads Holy Scripture to judge according to the principles of his Reason of the meaning and purpose of the holy Teacher. This opinion the author entirely condemns and refutes together with those who teach, in agreement with the paradoxical Theologian, that Reason is the interpreter of Scripture. For he thinks that Scripture must be understood literally, and that men must not be allowed the liberty of interpreting arbitrarily and rationalistically what ought to be understood by the words of the prophets, and so decide, according to their reasons and according to the knowledge of things which they have acquired for themselves, when the Prophets spoke literally, and when they spoke figuratively. But there will be occasion for discussing these things in what follows.

To return to the things from which I have digressed

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somewhat, the Author, adhering to his principles of the fatalistic necessity of all things,* denies that any miracles come to pass which are contrary to the laws of Nature : since he asserts, as I remarked above, that the natures of things and their order are no less necessary than are the nature of God and the eternal truths. Therefore he teaches that it is just as impossible for anything to depart from the laws of Nature as it is impossible in the case of a triangle that its three angles should not be equal to two right angles ; that God cannot bring it about that the less heavy weight should lift the more heavy, or that a body moving with two degrees of motion should overtake a body moving with four degrees of motion. Therefore he declares that miracles are subject to the ordinary laws of Nature, which, he teaches, are just as immutable as the very natures of things, since the very natures of things are contained in the laws of Nature. He does not admit any other power of God than the ordinary one which is exercised in conformity to the laws of Nature, and he thinks that another cannot be conceived, since it would destroy the natures of things, and would itself be self-contradictory.

A miracle, then, in the mind of the Author, is that which happens unexpectedly and the cause of which is unknown to the common people. Thus the common people attribute it to the power of prayer and the special direction of God when, following on duly conceived prayers, some imminent evil seems to have been averted, or some prayed-for good seems to have been obtained, when however, according to the Author's opinion, God had already decreed absolutely from eternity that those things should come to pass which the common people believe to have happened by [special] intervention and efficacy.

* Note by B. D. S. to this place : *He says this unjustly : for I have shown expressly that miracles afford no knowledge of God ; but that He is known much better from the steady order of Nature.*

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For the prayers are not the cause of the decree, but the decree is the cause of the prayers.

All this about fate and the invincible necessity of things, both as regards the natures and as regards the occurrence of things which happen daily, he bases on the nature of God, or to speak more clearly, on the nature of God's will and understanding, which, although different in name, are in God really identical. Therefore he asserts that God willed this universe, and all that happens in it successively, just as necessarily as He necessarily knows this same universe. But if God necessarily knows this universe and its laws, as also the eternal truths contained in these laws, he concludes that God could no more have created another universe than He could overthrow the natures of things, and make twice three be seven. And as we cannot conceive anything different from this universe and its laws, in accordance with which things come into being and perish, but whatever fiction of this kind that we can imagine overthrows itself, so he teaches that the Nature of the divine understanding, and of the whole universe, and of those laws, according to which Nature proceeds, is so constituted that God can no more conceive with His understanding any things different from these which now are, than it is possible for things to be at the moment different from themselves. And so he concludes that just as God cannot now produce things which are self-destructive, so God cannot conceive or know natures different from those which now exist, since the comprehension and understanding of these natures is as impossible (since, according to the view of the author, it involves a contradiction) as the production of things different from those which now exist, is impossible now : for all those natures, if they are conceived as different from those which now exist, would necessarily also be opposed to those which now exist. For since the natures of

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things contained in this universe are (according to the view of the Author) necessary, they cannot have that necessity from themselves, but from the nature of God, from which they necessarily emanate. For he will not have it, with Descartes, whose doctrine however he wishes to appear to have accepted, that as the natures of all things are different from the nature and essence of God, so the ideas of them are freely in the divine mind.

With these arguments, of which I have been speaking, the Author has paved the way to those things of which he delivers himself at the end of his book and towards which all the teachings of the preceding chapters are directed. Thus he wishes to instil into the mind of magistrates and of all men this axiom: The right of establishing the divine worship which shall be publicly observed in the state belongs to the Magistrates. Hence it is right for the Magistrates to permit the citizens to think and speak of religion as their mind and disposition bid them, and to allow the subjects that liberty even with regard to acts of external worship, as long as the cultivation of moral virtues or piety can remain intact. For since there can be no controversy about these virtues, and the knowledge and practice of other things contain no moral virtue, he concludes that God cannot be displeased whatever the religious rites which men adopt besides. But the author is speaking of those sacred rites which do not constitute moral virtue nor come into contact with it, which are neither opposed to virtue nor alien from it, but which men adopt and profess as aids to true virtues, so that thus through the love of these virtues they may become acceptable and pleasing to God, for God is not offended by the pursuit and practice of things which, being indifferent, make no difference as regards virtues or vices, though men connect them with the practice of piety, and use them as aids to the cultivation of virtue.

The Author, in order to prepare men's minds to accept these paradoxes, asserts first that the whole religious cult established by God and handed down by the Jews, that is, by the citizens of the Israelite commonwealth, was only directed to this, that they should pass their life happily in their commonwealth ; but that the Jews were not dear and acceptable to God above other nations. God, he says, has from time to time communicated this to the Jews through His Prophets, when He reproached them with their ignorance and error, because they identified holiness and piety with the worship established and prescribed for them by God, when it should only have been identified with the love of moral virtues, that is, with the love of God and with the love of one's neighbour.

And since God has imbued the minds of all nations with the principles and as it were with the seeds of virtues so that they may spontaneously and almost without any instruction realize the difference between good and evil, he concludes therefore that God has not left the other nations destitute of those things by means of which true blessedness can be obtained, but has shown Himself equally benevolent to all men.

Moreover he states that in order to put the [other] nations on an equality with the Jews in all the things which may in some way be of assistance and use towards obtaining true felicity, the [other] nations have not been without true prophets. This he sets out to prove by examples. Further he hints that God by His sovereignty ruled the other nations through the agency of good angels, whom, following the usage of the Old Testament, he calls Gods. Therefore the religious rites of the other nations did not displease God as long as they were not so corrupted by men's superstition as to alienate men from true holiness and to impel them to perpetrate in their religion things inconsistent with

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virtue. But God forbade the Jews, for special reasons peculiar to that people, to worship [other] nations' Gods which by God's ordinance and arrangement were worshipped by the [other] nations as properly as the Angels, the appointed guardians of the commonwealth of the Jews, were counted by the Jews in their way among the number of the Gods, and were treated by them with divine honours.

And since the Author thinks that it is generally admitted that external worship as such is not acceptable to God, he thinks it of very little importance with what ceremonies this external worship is carried out, so long as it is of such a kind that it is so worthy of God as to excite reverence for God in the minds of men, and to incite them to the love of virtue.

Then he thinks that the sum [and substance] of all religion is comprised in the cultivation of virtue, and that all knowledge of mysteries is superfluous that is not naturally adapted to virtue and formed to promote it, and that that knowledge is more potent and more necessary which contributes more effectively to teaching men virtue, and inciting them towards it. From this he concludes that we must approve, or at least not reject, all those opinions about God and His worship, and the things which pertain to religion, which, in the mind of those who hold them, are true and designed to the end that honesty may thrive and flourish. To establish this theory he quotes the Prophets themselves as the authors and witnesses of his view. They were convinced that it does not weigh with God at all what views men hold about religion, but that that worship and those opinions which proceed from a love of virtue and reverence for the Divinity are acceptable to God. And they took such liberties that they even brought forward such arguments to incite men to virtue as were indeed not true in themselves but which, in the opinion of those

whom they addressed, were considered such, and were naturally adapted to supply a spur to induce them to devote themselves more eagerly to virtue. And so he supposes that God left the choice of arguments to the prophets, so that they might apply those which were adapted to the times and to the thoughts of persons, and which they, according to their understanding, thought good and effective.

Hence he thinks it came to pass that different Divine Teachers used different, and often mutually conflicting, arguments, that Paul taught that man was not justified by works and James inculcated the opposite doctrine. For James saw, so the Author thinks, that the Christians were misapplying the doctrine of justification by faith, and so he shows in many places that man is justified by faith and by works. For he understood that it was not to the interest of the Christians of his time to inculcate and to publish, as Paul had done, that doctrine about faith, by which men calmly reposed on God's mercy, and took almost no trouble about good works. For Paul had to deal with the Jews who erroneously placed their justification in the works of the Law, especially delivered to them by Moses, and, thinking that they were thereby raised above all [other] nations, and had a road to blessedness prepared for them alone, rejected the method of salvation by faith whereby they were reduced to equality with the [other] nations and stripped and deprived of all privileges. Therefore since both propositions, that of Paul as well as that of James, were, for different sorts of times and persons, and connected circumstances, excellent helps towards making men pay regard to piety, the Author thinks it was part of the Apostolic wisdom to apply now the one and now the other doctrine.

And this, among many others, is the reason why the Author thinks it entirely inconsistent with the truth to want to explain the sacred text with the aid of reason,

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and to make this the interpreter of Scripture, or to interpret one holy teacher through another, since they have equal authority, and the words which they used must be explained by the mode of speaking and the rhetorical peculiarity natural to those Teachers. So in the investigation of the true sense of Scripture attention must be paid, not to the nature of the thing itself, but only to the literal meaning.

Since, therefore, Christ himself and the other divinely sent Teachers showed and taught by example and precept that men attain to happiness only by the love of virtue and that the rest is of no importance, the Author wishes to prove that the sole care of the Magistrates should be that justice and honesty may flourish in the state, but scarcely to regard it as their function to consider which religious service and which doctrines are most accordant with the truth ; but they must take care that such are not adopted as place an obstacle to virtue, even if they accord with the view of those who profess them.

Thus, without offending the Deity, the magistrates can easily tolerate different religious institutions in their state. And in order to persuade us of this he takes this course. He asserts that there is a kind of moral virtues, practised in social communities and concerned with outward acts, of such a sort that no one ought to exercise them according to his private judgment and decision, but that the cultivation, exercise and modification of these virtues depend on the authority and power of the Magistrates, both because outward acts of virtue derive their nature from circumstances, and because man's duty to perform external actions of this kind is judged according to the advantage or disadvantage which is derived from these actions ; so that these external actions if not carried out at the right time lose their character of virtues, and their opposites must be reckoned among the number of virtues. The Author thinks that there is

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another kind of virtues which exist inwardly in the mind; these always preserve their nature, and do not depend on the changing state of circumstances.

It is never permitted to anybody to show a propensity to cruelty and harshness, and not to love his neighbour and truth. But there can come times in which it may be lawful not indeed to lay aside this disposition of mind and the love of the said virtues, but either to refrain from them as far as external actions are concerned, or even to do things which, as far as external appearance goes, are deemed inconsistent with these virtues. And so it may happen that it may no longer be the duty of an upright man to state the truth openly, and, either by speech or writing, to let the citizens share in that truth, and communicate it to them, if we think that more harm than good will redound to the citizens from that pronouncement. And although individuals should embrace all men in love, and it is never permitted to banish that feeling, yet it happens rather frequently that certain persons may be severely treated by us without our fault, when it is certain that the clemency with which we are prepared to treat them would do us much harm. So, indeed, all think that it is not always opportune to state all truths, whether they pertain to religion or to civic life. And he who teaches that roses should not be thrown before swine, if there is any fear of the swine fiercely attacking those who offer them the roses, likewise holds that it is not the duty of a good man to instruct the multitude in certain chapters of religion for fear that the people, when these things are made public and broadcast among the multitude, will overwhelm the commonwealth, or the Church, and so more harm than good may ensue for the citizens and for the saints.

But since civil societies, from whom the power and authority to pass laws cannot be taken away, have instituted, among other things, that it must not be left to the

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choice of individuals to decide what is useful for men who together constitute a civic body, but that this must be entrusted to the rulers, the Author argues that therefore it is the right of the Magistrates to decide what kind and what doctrines ought to be taught publicly in the commonwealth, and that it is the duty of the subjects, as far as concerns outward profession, to refrain from teaching and professing dogmas about which the Magistrates have ordained by laws that silence shall be observed in public; since God has no more left this to the judgment of individuals than He has allowed them, in opposition to the intention and decrees of the magistrates or against the verdict of the judges, to do things by which the power of the laws is eluded and the magistrates are thwarted in their aim. For the Author thinks that about matters of this kind, concerning external worship and its profession, men can come to an agreement, and that the external acts of divine worship can as safely be entrusted to the judgment of the Magistrates, as justice is left to it, and the power of estimating injury done to the state, and of punishing it by force. For, just as a private person is not bound to accommodate his judgment of the injury done to the state to the judgment of the Magistrates, but is allowed to have his own opinion, although (if the case requires it) he is bound to contribute his part in putting into execution this decision of the magistrates, even so, the Author thinks that it is indeed the right of private persons in the commonwealth to judge about the truth and the falsity, as also about the necessity, of some dogma, and that the individual cannot be forced by the laws of the state to have the same opinion about religion. But it depends on the judgment of the Magistrates what doctrines ought to be put forward in public, and it is the duty of private persons to keep silent about their opinions on religion when they differ from the

view of the Magistrates, and to do nothing whereby the laws enacted by the Magistrates concerning worship might lose their force.

But, since it can happen that the Magistrates, differing from many of the multitude on certain points of religion, wish to have taught in public certain doctrines which are different from the view of the multitude, and that the Magistrates nevertheless hold it to be important for the honour of God that there should be a public profession of these dogmas in their commonwealth, the Author sees that there remains the difficulty that very great harm may be done to the citizens on account of the difference of the judgment of the Magistrates from the judgment of the multitude. Therefore to the preceding consideration the author adds a second, which may appease the minds both of the Magistrates and of their subjects, and preserve liberty in religion intact. This is, that the Magistrates need not fear the wrath of God even if they allow in their Commonwealth religious rites which in their opinion are perverse, so long as these rites are not opposed to the moral virtues, and do not subvert them. The ground of this view cannot escape you since I have given it sufficiently fully in what I have said above. For the Author has stated that God is indifferent and does not care what opinions men hold in their religion, and mentally approve and defend, and what religious rites they practise in public, since all these things must be reckoned among the number of things which have no affinity with virtue and vice; although it is the duty of each so to make his calculations that he may adopt those doctrines and that worship by which he thinks he can make the greatest progress in the love of virtue.

Here, most Honoured Sir, you have a compendious summary of the doctrine of the Political Theologian, which in my opinion abolishes and absolutely subverts

C O R R E S P O N D E N C E O F S P I N O Z A

all worship and religion, and secretly introduces Atheism, or imagines such a God that men are not affected by reverence for His divinity, since He Himself is subject to fate. No place is left for the divine government and providence, and all distribution of rewards and punishments is abolished. It is easy to see at least from this book of the Author that by his method and arguments the authority of all Holy Scripture is infringed, and is only mentioned by the Author for form's sake, just as it follows from the position which he adopts that the Koran must be put on a level with the word of God. Nor has the Author left himself a single argument with which to prove that Mahomet was not a true Prophet, since even the Turks according to the command of their Prophet cultivate the moral virtues about which all the nations are agreed ; and according to the Author's teaching it is not uncommon for God to lead the nations to whom He has not imparted the oracles given to the Jews and to the Christians by other revelations to the path of Reason and obedience.

I think, therefore, that I have not strayed far from the truth, or done any injury to the Author, if I denounce him as teaching pure Atheism with hidden and disguised arguments.

L. v. V.

UTRECHT, 24 *Jan.* 1671, Old Style.

LETTER XLIII

B. D. S.

TO THE VERY LEARNED AND HONOURED
MR. JACOB OSTENS.

MOST LEARNED SIR,

You are doubtless surprised that I have made you wait so long ; but I can hardly make up my mind to answer the letter of that man, which you were pleased to send me. Nor do I do so now for any other reason

than because I promised. But in order also to gratify my own mind as far as possible, I will discharge my debt in as few words as I can, and briefly show how perversely he has interpreted my meaning ; whether he has done this from malice or from ignorance, I could not say easily. But to the point.

First he says *that it concerns him little to know of what nationality I may be, or what manner of life I follow*. But if he had known this he would not have persuaded himself so easily that I teach Atheism. For Atheists are wont to desire inordinately honours and riches, which I have always despised, as all those who know me are aware. Then, in order to smooth the path to his goal, he says that I am not dull-witted, in order, forsooth, that he may more easily persuade men that I have argued cleverly and adroitly, but with evil intent, for the thoroughly bad cause of the Deists. This shows sufficiently that he has not understood my reasons. For who can be so ingenious and so astute as to give hypocritically so many and such strong reasons in support of something which he considers to be false ? Whom, I say, will he believe after this to have written sincerely, if he believes that the fictitious can be proved as soundly as the true ? However, I am not surprised at this now. For thus was Descartes once maligned by Voetius, and thus fare generally the best men.

He then continues. *In order to avoid the error of superstition, he seems to me to have cast aside all religion*. What he understands by Religion and what by superstition, I do not know. Does that man, I pray, cast aside all religion who declares that God must be recognized as the Highest Good, and that He must be loved as such with a free spirit ? and that in this alone does our highest felicity and supreme liberty consist ? that, furthermore, the reward of virtue is virtue itself, and the punishment of folly and weakness is the folly itself ?

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and, lastly, that everyone ought to love his neighbour, and to obey the commands of the supreme power? I not only said all this explicitly, but also proved it with the strongest arguments. But I think I see in what bog this man sticks. Namely, he finds nothing to please him in virtue itself and in understanding, but would rather live under the impulse of his feelings, if it were not for this single obstacle, that he fears punishment. Thus he abstains from evil deeds and follows the divine commands as a slave, unwillingly, and with a vacillating mind, and for this servitude he expects to be honoured by God with gifts, far pleasanter to him than the divine love itself, and the more so in proportion as the good which he does is repugnant to him, and he does it unwillingly. Hence it comes that he believes that all those, who are not restrained by this fear, lead unbridled lives, and cast aside all religion. But I pass over these things, and turn to his deduction, by which he wants to show that *I teach Atheism by hidden and disguised arguments*.

The basis of his argument is this, that he thinks that I take away God's liberty, and subject Him to fate. This is entirely false. For I assert that all things follow with inevitable necessity from the nature of God, just as all assert that it follows from the nature of God that He understands Himself. Certainly, no one denies that this follows necessarily from the divine nature, and yet no one conceives that God is forced by some fate, but that He understands Himself altogether freely although necessarily. Here I find nothing that cannot be perceived by anybody. If, nevertheless, he believes that these assertions were made with evil intent, what then does he think of his own Descartes, who states that nothing is done by us which has not been pre-ordained by God, or rather that every single moment we are, as it were, created anew by God, and that nevertheless we act with

the freedom of our will. This, assuredly, as Descartes himself confesses, no one can understand.

Moreover, this inevitable necessity of things sets aside neither divine nor human laws. For moral precepts, whether they receive the form of law from God Himself, or not, are nevertheless divine, and salutary ; and whether we receive the good, which follows from virtue and the divine love, from God as a judge, or whether it emanates from the necessity of the divine nature, it will not therefore be either more or less desirable, just as, on the other hand, the evils which follow from evil deeds are not to be feared any the less because they follow from them necessarily ; and, lastly, whether we do what we do necessarily, or freely, we are still led by hope or by fear. Therefore he asserts falsely *that I declare that there is no room left for precepts and commands*, or as he continues later *that there can be no expectation of reward or punishment, when all things are attributed to fate, and it is declared that all things emanate from God with inevitable necessity*.

I do not here inquire why it is the same, or not very different, to assert that all things emanate necessarily from the nature of God, and that the universe is God ; but I should like you to note the remarks which he no less spitefully adds. These are *that I mean that man should devote himself to virtue not because of the precepts and law of God, or the hope of reward, or the fear of punishment, but, etc.* This you will certainly not find anywhere in my *Treatise* ; on the contrary, in Chapter IV I have expressly said that the sum [and substance] of the divine law (which is divinely inscribed in our mind, as I said in Chapter XII) and its supreme injunction are to love God as the highest good ; that is, not from fear of some punishment (for love cannot spring from fear) nor for love of some other object, by which we hope to be gratified, for then we should not so much love God Himself as that which we desire. And I showed in the same chapter that God

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had revealed this same law to His Prophets ; and whether I declare that this law of God received the form of law from God Himself, or whether I conceive it like the rest of God's decrees which involve eternal necessity and truth, it will nevertheless remain the decree of God and a lesson in salvation ; and whether I love God freely, or from the necessity of the decree of God, nevertheless I shall love God, and I shall be saved. Therefore I could now say that this man belongs to the class of those about whom I said at the end of my Preface that I would rather that they should entirely neglect my book, than that by misinterpreting it, as they are wont to misinterpret everything, they should become troublesome, and without benefiting themselves should hinder others.

Although I think this is sufficient to show what I intended, I thought it worth while to add a few remarks, namely, that he falsely thinks that I am referring to the Axiom of those Theologians who distinguish between the discourse of a Prophet when he is teaching something and when he is simply narrating something. For if by this axiom he means that one which in Chapter XV I ascribed to a certain Rabbi Judah Alpakhar, how could I think that mine agrees with it when in the same Chapter I rejected it as false ? But if he is thinking of something else, I confess that I still do not know of it, and thus I could not be referring to it.

Further I do not see why he says that I think that all those will agree with me who deny that Reason and Philosophy are the interpreters of Scripture, when I have refuted their opinion as well as that of Maimonides.

It would take too long to review everything by which he shows that he has not passed judgment on me with an entirely calm mind. Therefore I proceed to his conclusion. There he says that *I have left myself no argument with which to prove that Mahomet was not a true Prophet.*

This indeed he endeavours to prove from my opinions, whereas really it clearly follows from them that he was an impostor, seeing that he entirely took away that freedom which Universal Religion, revealed by the natural and by prophetic light, allows, and which I have shown ought to be fully allowed. And even if this were not so, am I bound, I pray, to show that a certain Prophet is false? On the contrary, the Prophets were bound to show that they are true. But if he replies that Mahomet also taught the divine law, and gave sure signs of his mission, as the other Prophets did, then there will really be no reason why he should deny that he was a true Prophet.

As regards the Turks and the other Gentiles, if they worship God by the exercise of justice and charity towards their neighbour, I believe that they have the Spirit of Christ and are saved, whatever convictions they may in their ignorance hold about Mahomet and the oracles.

Thus you see, my friend, that this man has strayed far from the truth. Nevertheless, I admit that he does no harm to me but very much to himself when he is not ashamed to say that I teach Atheism by hidden and disguised arguments.

For the rest, I do not think you will find here anything which you can consider too severe an expression against this man. But if you meet with something of this sort, I beg you either to delete it, or to correct it, as you may think fit. I have no mind to irritate him, whoever he may be, and to raise up for myself enemies of my own making; and since this is often the result in disputes of this kind, I could scarcely prevail on myself to reply, and I could not have prevailed, had I not promised.

Farewell. To your prudence I commit this letter, and myself, who am, etc.

[THE HAGUE, *February* 1671.]

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LETTER XLIV

B. D. S.

TO THE VERY COURTEOUS AND PRUDENT MR. JARIG JELLES.

WORTHY FRIEND,

When Professor recently paid me a visit, he told me among other things that he had heard that my *Tractatus Theologico-Politicus* has been translated into Dutch, and that someone, he did not know who, proposed to get it printed. I therefore beg you most earnestly please to find out about this, so as, if possible, to stop the printing of it. This is not my request only, but also that of many of my good friends who would not like to see the book prohibited, as will without doubt happen, if the book is published in Dutch. I firmly trust that you will do me and our cause this service.

A certain friend has sent me, some time ago, a small book called *Homo Politicus*, or *Political Man* of which I had already heard much. I have read it through, and found it the most pernicious book that can be conceived by men. The highest good of the man who wrote it, is money and honours. To this he adapts his teaching, and shows the way whereby to attain them; that is, by inwardly rejecting all religion, and outwardly assuming such as shall best serve his advancement, and also by keeping faith with no one except in so far as it may tend to his own advantage. As regards the rest, he praises most highly simulation, promising without giving, lying, perjury and many other things. When I had read this, the thought occurred to me of writing a little book indirectly against it, in which I would treat of the highest good, and then of the restless and wretched plight of those who are greedy for money and covet honours, and, lastly, show, by clear arguments and many examples, that through the insatiable desire for Honours and Riches commonwealths must perish, and have perished.

LETTER XLIV—TO JELLES 1671

How much better and more excellent the thoughts of Thales of Miletus were than those of the above-mentioned writers is assuredly clear from the following consideration. Among friends, he said, all things are in common; the wise are the friends of the Gods [and all things belong to the Gods] *; therefore all things belong to the wise. In this way did this very wise man make himself the most rich, by nobly despising riches rather than by greedily hunting after them. Another time, however, he showed that it is not from necessity but from choice that the wise possess no riches. For when his friends reproached him for his poverty, he answered them: Do you wish me to show that I can also acquire that which I consider unworthy of my labour, but which you seek so greedily? And when they had said yes to this he hired all the presses throughout Greece: for, being a great expert in the course of the stars, he had seen that there would be that year a great superfluity of olives, of which there had been a great scarcity in the preceding years; and then he hired out at a high price those presses which he had hired for little money, for they had to use them in order to press the oil out of the olives. In this way he acquired in one year great wealth, which he afterwards distributed with as much kindness as he had acquired it with cleverness.

I conclude by assuring you that I am, etc.

THE HAGUE, 17 Feb. 1671.

LETTER XLV

GOTTFRIED LEIBNIZ

TO THE ILLUSTRIOUS AND VERY FAMOUS MR. B. D. S.

ILLUSTRIOUS AND MOST HONOURABLE SIR,

Among the other praises of you which fame has bruited abroad, I understand is your great skill in optics. This has made me wish to submit my essay,

* From the Latin version.

CORRESPONDENCE OF SPINOZA

such as it is, to you, than whom I shall not easily find a better judge in this kind of study. This paper which I send you, and which I have called *A Note on Advanced Optics*, I have published so that I may be able to communicate more conveniently with my friends or with those who are interested. I hear that the most Honourable Hudde is also distinguished in this kind of study, and I do not doubt that he is very well known to you. You will, therefore, greatly add to your kindness if you will also obtain for me his judgment and approbation.

The paper itself sufficiently explains its object.

I believe you have received the *Prodromus* of Francis Lana, a Jesuit, a work written in Italian, in which he makes some notable remarks on Dioptrics. But Johannes Oltius, a young Swiss, very learned in these matters, has also published *Physico-Mechanical Reflections on Vision*, in which he promises some kind of very simple and universal machine for polishing all kinds of glasses, and also says that he has found some method of collecting *all* the rays, coming from *all* the points of an object, into as many other corresponding points. But this only in the case of an object at a certain distance and of a certain shape.

For the rest my proposal comes to this, not that all the rays from *all* the points should be collected again, which, as far as our present knowledge goes, is impossible in the case of every object at any distance or of any shape, but that the rays should be collected equally from the points outside the optic axis and on the optic axis, so that the apertures of the glasses may be of any size and yet the vision remain distinct. But these things will await your very penetrating judgment.

Farewell Honoured Sir, and favour your
sincere admirer

GOTTFRIED WILLIAM LEIBNIZ,
Doctor of Laws and Councillor of Mainz.

FRANKFURT, 5 October 1671, *New Style*.

LETTER XLV—FROM LEIBNIZ 1671

P.S.—If you will honour me with an answer, the most noble Diemberbroeck, Lawyer, will, I hope not unwillingly, take charge of it. I think you have seen my new Physical Hypothesis ; if not, I will send it.

To MR. SPINOSA,
THE VERY CELEBRATED DOCTOR
AND VERY PROFOUND PHILOSOPHER,
AT AMSTERDAM.

par couvert.

LETTER XLVI

B. D. S.

TO THE VERY LEARNED AND NOBLE MR. GOTTFRIED
LEIBNIZ, DOCTOR OF LAWS AND COUNCILLOR OF
MAINZ.

Reply to the Preceding.

MOST LEARNED AND NOBLE SIR,

I have read the paper which you were kind enough to send me ; and I thank you very much for communicating it to me. I regret that I have not been able fully to follow your meaning, which, however, I believe you have explained clearly enough. Therefore, I beg you not to mind answering me these few questions. Namely, do you think that there is any other reason why the aperture of glasses ought to be small than because the rays which come from a single point are not collected exactly in another point but over a small space (which we are wont to call a mechanical point) which is larger or smaller in proportion to the size of the aperture ? Further, I ask whether those lenses which you call *pandochal* correct this error, that is, whether the Mechanical point, or the small space, in which the rays coming from the same point are collected after refraction, remains the same in size, whether the aperture is great or small ? For if the lenses achieve this, it will be possible to enlarge their aperture as much

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as one likes, and they will, therefore, be far superior to those of any other shapes known to me; otherwise I do not see why you commend them so much more than the ordinary lenses. For circular lenses have everywhere the same axis; and therefore, when we employ them, all the points of an object must be considered as if placed in the optic axis; and although all the points of the object are not at the same distance, yet the difference which arises from this cannot be perceptible when the objects are very distant, because then the rays which come from the same point are regarded as if they entered the glass in parallel lines. This much, however, I believe, namely, that when we wish to apprehend several objects in one glance (as happens when we employ very large convex eye-lenses) your lenses can be of help to represent the whole ensemble of things more distinctly. But I shall suspend judgment on all these points until you explain to me your meaning more clearly, as I earnestly beg you to do.

I sent the other copy to Mr. Hudde, as you bade me. He replies that at present he has not time, but he hopes to be free to examine it in a week or two.

The *Prodromus* of Francis Lana has not yet come into my hands, nor the *Physico-Mechanical Reflections* of Johannes Oltius, and, what I regret more, I have not even been able to see your Physical Hypothesis. Here at the Hague at least it is not on sale. Therefore, if you will send it to me you will be doing me a very great kindness, and if in any other matter I can be of service to you, I shall not fail to show that I am, Most Honourable Sir,

Yours entirely

B. DESPINOZA.

THE HAGUE, 9 November 1671.

Mr. Dimerbruck does not live here. I am, therefore, compelled to give this to the ordinary letter-carrier.

LETTER XLVI—TO LEIBNIZ 1671

I have no doubt that you know someone here at the Hague who would be willing to take charge of our letters, and I should like to know who it is, in order that our letters might be despatched more conveniently, and more safely. If the *Tractatus Theologico-Politicus* has not yet reached you, I will send you a copy if you do not mind. Farewell.

To THE VERY NOBLE AND HONOURABLE
MR. GOTTFRIED WILLIAM LEIBNIZ
DOCTOR OF LAWS AND COUNCILLOR
OF MAINTZ.

[FRANCO BIS
CÖLN]

[MAINTZ]
<FRANKFORT>

[2]

Port.

[DESPATCHED THE 8TH DECEMBER
1671.]

LETTER XLVII

J. LOUIS FABRITIUS

TO THE VERY ACUTE AND RENOWNED PHILOSOPHER B. D. S.

MOST RENOWNED SIR,

His Serene Highness the Elector Palatine, my most gracious Master, has commanded me to write to you, who are as yet unknown to me, but most highly commended to his Serene Highness the Prince, and to ask you whether you are willing to accept an ordinary Professorship of Philosophy in his Illustrious University. You will be paid the annual salary which the ordinary Professors enjoy to-day. You will not find elsewhere a Prince more favourable to distinguished geniuses, among whom he reckons you. You will have the utmost freedom of philosophizing, which he believes you will not misuse to disturb the publicly

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established Religion. I could not but comply with the request of the most wise Prince. Therefore I most earnestly beg you to answer me as soon as possible, and to entrust your answer to me to the care of Mr. Grotius, his Serene Highness the Elector's Resident at the Hague, or to Mr. Gilles van der Hek, to be forwarded in the packet of letters which they are wont to send to the court, or to make use of any other convenient means that may seem to you most suitable. I will add only this, that if you come here you will live pleasantly a life worthy of a Philosopher, unless everything turns out contrary to our hope and expectation. So Farewell and Hail to you, Most honoured Sir,

From your most devoted

J. LOUIS FABRITIUS,
*Professor in the University of Heidelberg, and
Councillor to the Elector Palatine.*

HEIDELBERG, 16 February 1673.

LETTER XLVIII

B. D. S.

TO THE VERY HONOURABLE AND NOBLE MR. J. LOUIS
FABRITIUS, PROFESSOR IN THE UNIVERSITY OF HEIDEL-
BERG, AND COUNCILLOR TO THE ELECTOR PALATINE.

Reply to the Preceding.

MOST HONOURABLE SIR,

If I had ever entertained a wish to take on a Professorship in any faculty, I could have desired no other than that which is offered me through you by His Serene Highness the Elector Palatine, particularly on account of that freedom of philosophizing which the Most Gracious Prince is pleased to offer, to say nothing of my long-felt desire to live under the rule of a Prince whose wisdom all admire. Since, however, it was never my intention to give public instruction,

LETTER XLVIII—TO FABRITIUS 1673

I cannot be induced to embrace this glorious opportunity, although I have debated the matter with myself so long. For, first, I think that if I want to find time for instructing youth, then I must desist from developing my philosophy. Secondly, I think that I do not know within what limits that freedom of philosophizing ought to be confined in order to avoid the appearance of wishing to disturb the publicly established Religion. For Schisms arise not so much from an ardent love of religion as from men's various dispositions, or the love of contradiction, through which they are wont to distort and to condemn all things, even those that have been correctly stated. I have already experienced these things while leading a private and solitary life, much more then are they to be feared after I shall have risen to this degree of dignity. Thus you see, Most Honoured Sir, that I am not holding back in the hope of some better fortune, but from love of peace, which I believe I can obtain to a certain extent, merely by refraining from public lectures. Therefore I most earnestly beg you to pray his Most Serene Highness the Elector to allow me to give the matter further consideration, and also to win the favour of the most gracious Prince for his most devoted admirer. Thereby you will oblige all the more,

Most Honourable and Noble Sir,

Yours entirely

B. D. S.

THE HAGUE, 30 *March* 1673.

LETTER XLVIII A

B. D. S.

TO MR. JARIG JELLES.

[*Fragments reported by (1) Hallmann, and (2) Bayle.*]

(1) The date of the letter was 19 April 1673. It was written at the Hague, and addressed to Jarig Jelles, who

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had sent him his *Confession of the Universal Christian Faith*, and asked him his opinion of it. Spinoza, in his reply, paid him no compliments, but stated that it was open to this criticism. On page 5 of the said manuscript he stated that by Nature man inclines to evil, but, through the Grace of God and the Spirit of Christ, he becomes indifferent to Good and Evil. This, however, is unsound, because he who has the spirit of Christ, must necessarily feel impelled to Good only. In this letter Spinoza also referred to Mr. Kerckring, a medical man, whom he had consulted about some anatomical questions. Near the end of the letter he wrote to Jelles : I will send to you the Known Truth as soon as Mr. Vallon returns to me my copy ; but if he delays too long, I shall arrange for you to get it through Mr. Bronckhorst. The conclusion was : I remain, with cordial greeting,

Your devoted servant
B. SPINOZA.

(2) SIR AND MOST ILLUSTRIOUS FRIEND,

Your writings, which have been sent to me, I have read through with pleasure, and found them such that I can change nothing in them.

LETTER XLIX

B. D. S.

TO THE VERY ILLUSTRIOUS
MR. JOHN GEORGE GRAEVIUS.

MOST ILLUSTRIOUS SIR,

I beg you to send me as soon as you can the letter concerning the death of Descartes, which I believe you have copied long ago. For Mr. de V. has several times asked me to return it. If it were mine I should

LETTER XLIX—TO GRAEVIUS 1673

not be in any hurry. Farewell, most honoured Sir,
and remember your friend who is

Yours in all love and devotion,

BENEDICTUS DESPINOZA.

THE HAGUE, 14 *December* 1673.

MR. JOHN GEORGE GRAEVIUS,
ORDINARY PROFESSOR OF RHETORIC
AT UTRECHT.

Post.

(Hague night post.)

LETTER L

B. D. S.

TO THE VERY COURTEOUS AND PRUDENT MR. JARIG JELLES.

WORTHY FRIEND,

With regard to Politics, the difference between Hobbes and me, about which you inquire, consists in this that I ever preserve the natural right intact so that the Supreme Power in a State has no more right over a subject than is proportionate to the power by which it is superior to the subject. This is what always takes place in the state of Nature.

Further as regards the proof which I establish in the *Appendix to my Geometrical Proof of Descartes' Principles*, namely, that God can only very improperly be called one or single; I reply to this that a thing can only be said to be one or single in respect of its existence and not of its essence: for we do not conceive things under numbers until they have been subsumed under a common class. For example, he who holds in his hand a penny and a dollar will not think of the number two, unless he can call the penny and the dollar by one and the same name, such as pieces of money or coins: for then he can say that he has two pieces of money or two coins, because he calls the penny as well as the dollar a piece of money or a coin. Hence it seems clear that nothing can be called one or single unless some other thing has first

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been conceived which (as has been said) agrees with it. But since the existence of God is His essence itself, and since we can form no general idea of His essence, it is certain that he who calls God one or single has no true idea of God, or is speaking of Him inappropriately.

As regards this, that figure is a negation, and not something positive, it is clearly evident that the totality of matter, considered without limitation, can have no figure and that figure has a place only in finite and limited bodies. For he who says that he apprehends a figure wants to express thereby nothing else than that he is apprehending a limited thing, and how it is limited. The limitation, therefore, does not belong to the thing in virtue of its being, but, on the contrary, it is its not-being. Since, then, figure is nothing but limitation and limitation is negation, therefore, as has been said, it can be nothing but negation.

The book written against mine by the Professor of Utrecht, and published after his death, I have seen in a bookseller's window. From the little I then read of it I judged that it was not worth reading through, much less worth answering. Therefore I left the book lying there, and I left its author such as he was. I reflected with a smile how the ignorant are always the boldest and the most ready to write. It seemed to me that the . . . put up their wares for sale as do the shopkeepers who always show first what is worst. They say the devil is a crafty fellow, but I think their spirit far surpasses his in craftiness. Farewell.

THE HAGUE, 2 *June* 1674.

LETTER LI

HUGO BOXEL

TO THE VERY ACUTE PHILOSOPHER, B. D. S.

MOST ILLUSTRIOUS SIR,

The reason why I am writing this to you is that I desire to know your opinion about apparitions

and spectres, or ghosts, and if they exist, what you think about them, and how long they live; for some think they are immortal, and others think they are mortal. Since I am in doubt whether you think that they exist, I will proceed no further. Meanwhile, it is certain that the Ancients believed in their existence. Modern Theologians and Philosophers still believe in the existence of creatures of this kind, although they are not agreed about their essence. Some say they are composed of a very thin and fine matter, others that they are spiritual. But (as I began by saying) we differ very much from each other, since I am doubtful whether you admit that they exist, although, as cannot have escaped you, there are found so many instances and stories [of them] throughout Antiquity, that it would really be difficult to deny them or to throw doubt upon them. This is certain, namely, that even if you admit that they exist, still you do not believe that some of them are the souls of the dead as the defenders of the Roman faith will have it.

Here I will end, and await your reply. I will say nothing about the war, nothing about the rumours, for our life is cast in these times, etc. Farewell.

14 September 1674.

LETTER LII

B. D. S.

TO THE VERY HONOURABLE AND PRUDENT
MR. HUGO BOXEL.

Reply to the Preceding.

SIR,

Your letter, which I received yesterday, was very acceptable to me, both because of my desire for some news of you and because I see that you have not yet entirely forgotten me. And although others, perhaps, might think it a bad omen that ghosts or spirits should

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have been the reason for your writing to me, I, on the contrary, find in it something that is more important; for I realize that not only real things but also trifles and fancies can turn to my advantage.

Let us, however, set aside this question whether ghosts are phantoms and fancies; since it seems extraordinary to you not only to deny that there are such things, but even to doubt them; for you are convinced by the numerous stories which the ancients and the moderns relate about them. The great respect which I have always entertained for you, and still entertain for you, does not permit me to contradict you, much less to flatter you. The middle course which I propose to take between the two, is to ask you please to select out of the numerous stories which you have read about ghosts, one or two which are least open to doubt, and which most clearly prove that there are ghosts. For, to tell the truth, I have never read a reliable Author who clearly showed their existence. I still do not know what they are, and no one has ever been able to tell me anything about them. And yet it is certain that in the case of a thing which is so clearly shown by experience we ought to know what it is: otherwise we can hardly infer from any story that there are ghosts, but only this that there is something, although no one knows what it is. If Philosophers want to apply the name ghosts to things that we do not know, I shall not say No, since there are countless things of which I have no knowledge.

Lastly, Sir, before I explain my opinion on this subject further, I beg you to tell me what sort of things are these ghosts or spirits? Are they children, fools, or madmen? For what I have heard of them seems to be suggestive of fools rather than of intelligent people, and, at best, is most like child's play, or the pastime of silly people. Before I conclude, I still want to draw your attention

to one thing, namely, that the desire which people commonly have, to relate things not as they really are, but as they want them to be, is better seen in the stories about spirits and ghosts than in others. The principal reason for this, as I believe, is that, since stories of this sort have no other witnesses than those who relate them, the inventor of them can add or remove circumstances according to his own pleasure, without having to fear that someone may contradict him, and especially does he invent things to justify the fear which seized him in his dreams and weird fancies, or else to confirm his courage, his faith, and his opinion. In addition to these, I have found yet other reasons which make me doubt, if not the stories themselves, at least the circumstantial details with which they are related and which mostly serve to support the conclusion which is meant to be drawn from these stories. I will leave it at this now, until I know what are those stories about which you are so convinced that you think it absurd even to doubt them.

[THE HAGUE, *September* 1674.]

LETTER LIII

HUGO BOXEL

TO THE VERY ACUTE PHILOSOPHER B. D. S.

Reply to the Preceding.

[MOST ACUTE SIR,] *

I expected no other answer than the one which you have sent me, namely, the answer of a friend who holds different views. This last does not matter: for friends can differ over unimportant matters, as was always allowed, without their friendship suffering in any way.

Before you explain yourself you ask me to say what

* From the Latin version.

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kind of things ghosts are, whether they are children, fools or madmen, etc., and you add that all you have heard about them looks like the work of fools rather than of the intelligent. The old proverb is true, that a preconceived opinion hinders the search for truth.

I say that I believe that there are ghosts. The reasons are these. First, because it adds to the beauty and the perfection of the universe that they should exist. Secondly, it is probable that the Creator has created them because they resemble Him more closely than do corporeal creatures. Thirdly, because just as there is a body without a soul, so there is a soul without a body. Fourthly and lastly, because I think that in the uppermost air, place, or space, there is no dark body which has not inhabitants of its own, and therefore that the immeasurable space which lies between us and the stars is not empty, but is full of inhabitants who are spirits, the highest and uppermost being true spirits whereas the lowest in the lowest atmosphere are possibly creatures of very fine and thin substance, and also invisible. I think therefore that there are spirits of all kinds, except that possibly there are no female spirits.

This argument will not convince those who perversely think that the world was made by chance. Apart from these arguments, experience daily shows that there are spirits, of whom there are many stories, old as well as modern, and even present-day stories. They have been related by Plutarch in the *Treatise on Famous Men*, and in other parts of his works; by Suetonius in the *Lives of the Caesars*; by Wierus in his books on ghosts, also by Lavater, who fully discuss this subject, for which they have drawn on all writers. Also Cardanus, who is so celebrated for his learning, speaks of them in his book *De Subtilitate* and in *De Varietate* and in his *Autobiography*, in which he recounts his own experiences and those of his relations and friends to whom ghosts

had appeared. Melanthon, a lover of truth and an intelligent man, and many others, bear witness from their own experiences. A Burgomaster of Sc., a learned and wise man, who is still alive, once told me that in his mother's brewery work was heard going on at night just as it went on by day when they brewed, and he swore to me that this had happened several times. Such things have also happened to me personally, and not once only, so that I shall never forget it ; therefore, and for the said reasons, I am convinced that there are ghosts.

As regards devils, who torment poor people in this life and after it, that is another question, as is also everything connected with magic. I think that the stories told of these things are fables. Sir, in the Treatises on Ghosts you will find a superabundance of circumstantial details. Besides these you can look up the younger Pliny, Book VII, in his letter to Sura, also Suetonius, in the Life of Julius Caesar, Chapter 32, Valerius Maximus, Book I, Chapter VIII, § 8, and also § 7 in the *Dies Geniales* of Alexander ab Alexandro. For I believe that you have these authors at hand. I am not speaking of Monks and Clerics, who report so many apparitions, spirits and devils, and so many stories, or, as I should say, fables of spectres, that they tire one and one loathes reading them. Thyraeus, a Jesuit, in a book which he calls *Apparitions of Spirits*, deals with these things. But these people do these things simply for the sake of gain, and to prove the existence of purgatory, which is a mine from which they extract so much silver and gold. This, however, is not found to be the case with the above-mentioned authors and other modern writers, who are without partizanship and should therefore be all the more believed.

You say at the end of your letter that to commend me to God is something which you cannot do without

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smiling. But, if you still remember the conversation which we had once, you will see that there is no ground for alarm in the conclusion which I drew at the time in my letter, etc.

In reply to your letter, since you speak of fools and lunatics I will state the conclusion of the learned Lavater with which he ends his first book on Night Ghosts. It reads as follows: *He who is bold enough to repudiate so many unanimous witnesses Ancient as well as modern, seems in my judgment unworthy of belief as regards anything he asserts, for just as it is the sign of rashness immediately to believe all who say they have seen Night ghosts, so, on the other hand it must be a very great shamelessness rashly and impudently to contradict so many trustworthy Historians, the Fathers, and many others who have great authority, etc.*

21 September 1674.

LETTER LIV

B. D. S.

TO THE VERY HONOURABLE AND PRUDENT
MR. HUGO BOXEL.

Reply to the Preceding.

MOST HONOURABLE SIR,

Relying on what you say in your letter of the 21st of last month, namely, that friends can differ about what is unimportant and yet their friendship remain unimpaired, I will say clearly what I think of the reasons and stories from which you conclude *that there are ghosts of all kinds but possibly none of the female sex*. The reason why I did not reply sooner is that the books you cite are not at hand, nor could I find any but Pliny and Suetonius. But these two have saved me the trouble of consulting the others, since I am sure that they all rave after the same fashion, and love stories of uncommon things, which astonish men, and win their admira-

tion. I confess that I was not a little amazed, not at the stories which are told, but at those who write them. I am surprised that men who are endowed with ability and judgment, should expend their eloquence and misuse it in order to persuade us of such trifles.

Let us, however, dismiss the authors and attack the question itself. And first my discussion will turn for a little on your conclusion. Let us see whether I, who deny the existence of Spectres or Spirits, therefore understand less the writers who treat of this matter; or whether you, who state that they exist, do not esteem these writers more highly than they deserve.

On the one hand, you do not doubt the existence of spirits of the male sex, but, on the other hand, you doubt whether there are any of the female sex. This seems to me more like a fancy than a doubt. For if this really were your opinion it would resemble rather the popular imagination which makes God masculine and not feminine. I am surprised that those who have seen naked spirits did not turn their eyes to the genital parts, perhaps from fear or from ignorance of this difference.

You may reply, this is mockery, not argument; and hence I see that you think your reasons are so sound and well-founded that no one (at least in your opinion) can contradict them unless it be some-one who out of perversity thinks that the world was made by chance. This already impels me, before I examine your foregoing reasons, briefly to explain my opinion on the question whether the world was created by chance. My answer is that, as it is certain that *Fortuitous* and *Necessary* are two contrary terms, it is also clear that he who asserts that the world is the necessary effect of the divine Nature also absolutely denies that the world was made by chance; he, however, who asserts that God could have refrained from creating the world is

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affirming, albeit in other words, that it was made by chance ; since it proceeded from an act of will which need not have been. Since, however, this opinion and this view are thoroughly absurd, it is admitted universally and unanimously, that the will of God is eternal and has never been indifferent ; therefore they must also admit (mark this well) that the world is the necessary effect of the Divine Nature. Let them call it will, understanding, or by any name they please, they will eventually arrive at the conclusion that they express one and the same thing by various names. For if you ask them whether the Divine will does not differ from the human will, they will reply that the former has nothing in common with the latter except the name ; moreover they mostly admit that God's Will, Understanding, Essence or Nature are one and the same thing ; I too, in order not to confuse the Divine with human nature, do not assign to God human attributes, such as Will, Understanding, attention, hearing, etc. Therefore, I say, as I have said just now, that the world is a necessary effect of the Divine Nature, and was not made by chance.

This, I think, will be sufficient to persuade you that the opinion of those (if indeed there are such persons) who say that the world was made by chance, is entirely opposed to my opinion. Relying on this foundation, I proceed to inquire into those reasons from which you conclude that all kinds of Spectres exist. What I can say of them in general is that they seem to be conjectures rather than reasons, and that I find it difficult to believe that you hold them to be conclusive reasons. Let us see, however, whether they are conjectures or reasons, and whether we can accept them as established.

Your first reason is that the existence of Spectres is required for the beauty and perfection of the Universe. Beauty, most honoured Sir, is not so much a quality of the object which is perceived as an effect in him who

perceives it. If our eyes were more long-sighted or more short-sighted, or if our temperament were other than it is, things which now appear to us beautiful would appear to be ugly and things which now appear to be ugly would appear to us beautiful. The most beautiful hand when seen through a microscope will appear horrible. Some things seen at a distance are beautiful, but seen at closer range are ugly. Therefore things regarded in themselves, or in relation to God, may be neither beautiful nor ugly. He, then, who says that God created the world to be beautiful must necessarily assert one of two alternatives, namely, either that God has made the world to suit the desire and the eyes of men, or the desire and the eyes of men to suit the world. Now, whether we assert the former or the latter, I do not see why God had to create Spectres and Spirits in order that one of these alternatives should result. Perfection and imperfection are designations which are not very different from those of beauty and ugliness. Therefore, not to be too diffuse, I only ask what will contribute more to the beauty and perfection of the world, is it the existence of Spectres, or that of numerous monsters, such as Centaurs, Hydras, Harpies, Satyrs, Griffins, Arguses, and more absurdities of this kind? The world would indeed have been well adorned had God for the pleasure of our Phantasy adorned and equipped it with these things which each man can easily imagine and dream for himself, but no one can ever understand.

Your second reason is that since Spirits express the image of God more than do other, corporeal creatures, it is also probable that God has created them. I confess that I still do not really know wherein Spirits express God more than do other creatures. This I know, that between the finite and the infinite there is no proportion: so that the difference between the greatest and most excellent creature and God is the same as the

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difference which exists between God and the least creature. This argument therefore is not to the point. Had I as clear an idea of Spectres as I have of a triangle or a circle, I should in no way hesitate to assert that they were created by God: but inasmuch as the idea which I have of them corresponds entirely to the idea of Harpies, Griffins, Hydras, etc., which I apprehend in my imagination, I can only consider them as dreams, which are as different from God as Being is from Not-Being.

Your third reason (which is, that just as body exists without soul, so should soul exist without body) seems to me equally absurd. Tell me, I pray you, whether it is also likely that memory, hearing, sight, etc., exist without bodies, because bodies are found without memory, hearing, sight, etc.? Or a sphere without a circle, because a circle exists without a sphere?

Your fourth and last reason is the same as the first, and I refer to my answer to that. Here I shall merely note that I do not know what are the highest and lowest places which you conceive in infinite matter, unless you think that the Earth is the centre of the universe. For if the Sun or Saturn is the centre of the Universe, the Sun or Saturn and not the earth will be the lowest. Therefore, putting aside this argument and the rest, I conclude that these and similar reasons will convince no one that there are Spectres and Ghosts of every kind, except those who close their ears to the understanding, and allow themselves to be led astray by Superstition, which is so hostile to right Reason that, in order to lower the prestige of Philosophers, it will put its faith in old women.

As regards these stories, I have already said in my first letter, that I do not deny them entirely but only the conclusion which is inferred from them. You may add that I do not think them so trustworthy as not to be

dubious about many circumstantial details, which they too often add more for adornment than in order the better to prove the truth of the story, or the conclusion which they desire to draw from it. I had hoped that out of so many stories you would produce at least one or two which would be least open to doubt, and which would most clearly show that Spectres and Ghosts exist. That the said Mayor wants to conclude that Spectres exist because he heard them working by night in his mother's brewery, as he was wont to hear men work by day, seems to me ludicrous. Similarly, it would seem too long to examine here all the stories which have been written about these absurdities. To be brief, I refer to Julius Caesar who, as Suetonius bears witness, laughed at these things, and yet was fortunate, according to what Suetonius narrates about this Prince, in his biography, chapter 59. And in the same way, all who consider the effects of mortal imaginings and feelings must laugh at such things, whatever Lavater and others who dream with him about this business may adduce to the contrary.

[THE HAGUE, *September* 1674.]

LETTER LV

HUGO BOXEL

TO THE VERY ACUTE PHILOSOPHER B. D. S.

Reply to the Preceding.

MOST ACUTE SIR,

I answer your letter later than I expected, because a slight illness has deprived me of the pleasure of study and reflection, and has prevented me from writing to you. Now, thank God, I am restored to health. In my answer I shall follow in the steps of your letter, and shall skip your declamations against those who have written on Spectres.

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I say, then, that I think that there are no Spectres of the female sex, because I deny that there is any birth-giving among them. I omit the question of their precise shape and composition because it does not concern me.

A thing is said to have been made fortuitously when it is produced without regard to the aim of its author. When we dig the earth to plant a vine, or to make a pit or a grave, and find a treasure of which we never had a thought, this is said to happen by chance. But he who, of his own free will acts in such a way that he can either do so or not, is never said to act by chance, when he does act. For in that case all human acts would happen by chance, which would be absurd. Necessary and Free are contraries, but not Necessary and Fortuitous. Granted that God's will is eternal, it does not yet follow that the world is eternal, because God could from eternity determine that He would create the world at an appointed time.

Further, you deny that God's will has ever been indifferent. On this I disagree. Nor is it necessary to pay such careful attention to this as you think. Nor do all say that God's will is necessary. For this involves necessity ; since he who attributes a will to some-one means thereby that he can act or not, according to his will. But if we ascribe necessity to him, then he must act necessarily.

Lastly, you say that you ascribe no human attributes to God in order not to confuse the Divine with human nature. So far I agree—for we do not perceive in what way God acts or in what way He wills, understands, considers, sees, or hears, etc. But if you altogether deny of God these activities and our highest reflections, and assert that they do not exist eminently and in a metaphysical sense in God, then I do not know your God, nor what you mean by the term *God*. That which

is not apprehended should not be denied. Mind, which is spirit and incorporeal, can only act with the finest bodies, namely with the humours. And what is the relation between the Mind and the Body? In what way does Mind act with Bodies? For without these the Mind is quiescent, and when they are agitated the Mind does the contrary of what it ought to do. Show me how this happens. You will not be able to do so, nor shall I; nevertheless we see and feel that Mind is active, which remains true although we do not apprehend in what way the action takes place. Similarly although we do not grasp in what manner God acts, and we do not want to ascribe to Him human actions, yet we must not deny that His actions do eminently and incomprehensibly accord with ours, such as willing, understanding, seeing, hearing, though not with eyes or with ears, but with the intellect; just as the wind and air can without the aid of hands or other instruments destroy and even overthrow regions and mountains, which men cannot do without hands and engines. If you attribute necessity to God, and deprive Him of will and free choice, then it may be doubted whether you do not depict and represent as a monster Him who is an infinitely perfect Being. To attain your end, you will need other reasons on which to lay your foundation; for, in my opinion, there is no validity in those you have brought forward. And even if you prove them, there are still others which are possibly as weighty as yours. But, dismissing these questions, let us proceed.

You demand conclusive proofs that there are spirits in the world. There are few such proofs in the world, and none except those of Mathematics are found as certain as we wish. We are, in fact, satisfied with conjectures which are probable, and likely to be true. If the arguments by which things are proved were conclusive, none would be found to contradict them except

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the foolish and obstinate. But, my dear Friend, we are not so fortunate. In the world we are less exacting, we make a conjecture to a certain extent, and in our reasonings we accept the probable in the absence of proofs. This is evident from all the sciences, divine as well as human, which are full of controversies and disputes, the great number of which is the reason why there are so many different opinions found among all. Therefore, as you know, there have been in the past Philosophers, called Sceptics, who doubted everything. They debated both for and against a point in order that they might follow what was only probable in default of true reasons, and each of them believed what seemed to him more probable. The Moon is situated directly below the Sun ; and therefore the Sun will be obscured for a certain part of the earth ; and if the Sun is not obscured, while it is yet day, then the Moon is not situated directly below the Sun. This is a conclusive proof, from the cause to the effect, and from the effect to the cause. There are proofs of this kind, but very few, which if they are once perceived can be contradicted by nobody.

As to beauty, there are things whose parts are proportionate in relation to the others, and are better put together than others. God has granted to the understanding and judgment of man agreement and harmony with that which is proportionate, but not with that which has no proportion. Thus in sounds which are harmonious and dissonant the hearing can easily distinguish between harmony and dissonance, because the former brings pleasure but the latter displeasure. The perfection of a thing is also beautiful in so far as there is nothing lacking to it. Of this there are many examples, which I omit so as not to be too lengthy. Let us only consider the world to which the name of Whole or Universe is given. If this is true, as it really is, then it cannot be disfigured or degraded by incorporeal things. What

you say of Centaurs, Hydras, Harpies, etc., is out of place here : for we are speaking of the most universal kinds of things, and of their first grades, which comprehend under them various and innumerable species, we are speaking, that is, of the eternal and the temporal, of cause and effect, of the finite and the infinite, of the animate and the inanimate, of substance and accident, or mode, of the corporeal and the spiritual, etc.

I say that spirits are like God because He is also a spirit. You demand as clear an idea of spirits as of a triangle, which is impossible. Tell me, I adjure you, what idea you have of God, and whether it is as clear to your understanding as the idea of a triangle. I know that you have no such idea, and I have said that we are not so fortunate as to grasp things through conclusive proofs, and that, for the most part, the probable is predominant in this world. Nevertheless, I assert that just as body exists without memory etc. so also memory etc. exists without body, and that as a circle exists without a sphere, so does a sphere exist without a circle. But this is to descend from the most universal genera to particular species, for which this argument is not intended.

I say that the Sun is the centre of the world, and that the fixed stars are further from the earth than is Saturn, that Saturn is more remote than Jupiter, and Jupiter than Mars ; and so, in the unlimited air some bodies are more remote from us, and some are nearer to us, and these we call higher or lower.

It is not those who defend the existence of spirits who discredit Philosophers, but those who deny their existence, since all Philosophers, ancient as well as modern, think themselves convinced of the existence of spirits. Plutarch bears witness to this in his Treatises on the opinions of Philosophers, and on the dæmon of Socrates ; also all the Stoics, Pythagoreans, Platonists, Peripatetics,

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Empedocles, Maximus Tyrius, Apuleius and others bear witness to it. Of modern philosophers none denies spectres. Reject then so many wise witnesses, who have themselves seen or have heard [spectres], so many Philosophers, so many Historians who relate such stories ; assert that they are all foolish like the multitude, and mad. Your answers cannot persuade one but are even absurd, they do not anywhere touch the main point of our controversy, and you put forward no proof to confirm your opinion. Caesar, like Cicero and Cato, does not laugh at spectres, but at omens and presentiments ; however, if, on the day on which he died, he had not laughed at Spurina, his enemies would not have stabbed him with so many wounds. But let these suffice on this occasion, etc.

[September 1674.]

LETTER LVI

B. D. S.

TO THE VERY HONOURABLE AND PRUDENT
MR. HUGO BOXEL.

Reply to the Preceding.

MOST HONOURABLE SIR,

I hasten to answer your letter, which I received yesterday, because if I go on delaying longer I shall be compelled to postpone my reply longer than I should wish. Your health would cause me anxiety if I had not heard that you are better, and I hope you are now entirely recovered.

How difficult it is for two persons who follow different principles to meet one another and agree on a subject which depends on many others, would be clear from this question alone, even if no argument demonstrated it. Tell me, I pray, whether you have seen or read any Philosophers who hold the opinion that the

world was made by chance, that is, in the sense in which you understand it, namely, that God, when creating the world had set Himself a definite aim, and yet transgressed His own decree. I do not know that such a thing even occurred to any man's thought. Similarly, I am in the dark about the arguments by which you endeavour to persuade me to believe that *Fortuitous* and *Necessary* are not contraries. As soon as I realize that the three angles of a triangle are necessarily equal to two right angles, I also deny that this is the result of chance. Similarly as soon as I realize that heat is the necessary effect of fire, I also deny that it occurs by chance. It seems no less absurd and opposed to reason to suppose that *Necessary* and *Free* are contraries. For no one can deny that God knows Himself and everything else freely, and yet all are agreed in admitting that God knows Himself necessarily. Thus you seem to me to make no distinction between coercion or force, and Necessity. That man desires to live, to love, etc., is not a compulsory activity, but it is none the less necessary, and much more so is God's will to be, and to know, and to act. If, apart from these remarks, you turn over in your mind the fact that indifference is nothing but ignorance or doubt, and that a will ever constant and determined in all things is a virtue, and a necessary property of the intellect, then you will see that my words are thoroughly in accord with the truth. If we assert that God had it in His power not to will a thing, and did not have it in His power not to understand it, then we attribute to God two different kinds of freedom, one being that of necessity, the other that of indifference, and consequently we shall conceive the will of God as differing from His essence and His intellect, and in that case we shall fall into one absurdity after another.

The attention which I requested in my former letter

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did not seem to you necessary, and this was the reason why you did not fix your thoughts on the principal point, and neglected what was of the utmost importance to the subject.

Further, when you say that if I deny to God the acts of seeing, of hearing, of attending and of willing, etc., and their occurrence in Him in an eminent degree, then you do not know what kind of God I have, I suspect therefrom that you believe that there is no perfection greater than that which is unfolded in the said attributes. I do not wonder at this, since I believe that a triangle, if only it had the power of speech, would say in like manner that God is eminently triangular, and a circle would say that the Divine Nature is eminently circular, and in this way each thing would ascribe its own attributes to God, and make itself like unto God, while all else would appear to it deformed.

The small compass of a letter, and limitation of time, do not permit me to explain in detail my opinion about the Divine Nature, or the other Questions which you put forward, to say nothing of the fact that to raise difficulties is not the same as to advance reasons. It is true that in the world we often act on conjecture; but it is false that our reflections are based on conjecture. In ordinary life we must follow what is most probable, but in philosophical speculations, the truth. Man would perish of thirst and hunger if he would not eat or drink until he had obtained a perfect proof that food and drink would do him good. But in contemplation this has no place. On the contrary, we must be cautious not to admit as true something which is merely probable. For when we admit one falsity, countless others follow.

Further, from the fact that divine and human sciences are full of disputes and controversies it cannot be inferred that all the things which are treated therein are uncertain: for there have been very many people who

were so possessed by the love of contradiction that they laughed even at Geometrical proofs. Sextus Empiricus and other Sceptics whom you cite say that it is not true that the whole is greater than its part, and they have the same view of the other axioms.

But, putting aside and admitting the fact that in default of proofs we must be satisfied with probabilities, I say that a probable Proof ought to be such that, although we can doubt it, yet we cannot contradict it; because that which can be contradicted is not likely to be true, but likely to be false. If, for instance, I say that Peter is alive, because I saw him in good health yesterday, this is indeed likely to be true so long as no one can contradict me; but if someone else says that yesterday he saw Peter suffering from loss of consciousness, and that he believes that Peter died from it, he makes my words seem false. That your conjecture about spectres and ghosts seems false and not even probable, I have so clearly shown that I find nothing worthy of consideration in your answer.

To your question whether I have as clear an idea of God as I have of a triangle, I answer in the affirmative. But if you ask me whether I have as clear a mental image of God as I have of a triangle, I shall answer No. For we cannot imagine God, but we can, indeed, conceive Him. Here also it should be noted that I do not say that I know God entirely, but only that I understand some of His attributes, though not all, nor even the greater part of them, and it is certain that our ignorance of the majority of them does not hinder our having a knowledge of some of them. When I learnt Euclid's elements I first understood that the three angles of a triangle are equal to two right angles, and I clearly perceived this property of a triangle although I was ignorant of many others.

As regards spectres, or ghosts, I have never yet heard of an intelligible property of theirs, but only of

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Phantasies which no-one can grasp. When you say that spectres, or ghosts, here in this lower region (I follow your form of expression, although I do not know that the matter here in this lower region is less valuable than that above) consist of the finest, thinnest, and most subtle substance, you seem to be speaking of spiders' webs, of air, or of vapours. To say that they are invisible means for me as much as if you said what they are not, but not what they are; unless perhaps you want to indicate that, according as they please, they make themselves now visible, now invisible, and that in these as in other impossibilities, the imagination will find no difficulty.

The authority of Plato, Aristotle, and Socrates has not much weight with me. I should have been surprised had you mentioned Epicurus, Democritus, Lucretius or any one of the Atomists, or defenders of the atoms. It is not surprising that those who invented occult Qualities, intentional Species, substantial Forms, and a thousand other trifles, should have devised spectres and ghosts, and put their faith in old women, in order to weaken the authority of Democritus, of whose good repute they were so envious that they burnt all his books, which he had published amidst so much praise. If you have a mind to put faith in them, what reasons have you for denying the miracles of the Holy Virgin, and of all the Saints, which have been described by so many very famous Philosophers, Theologians, and Historians that I can produce an hundred of them to scarcely one of the others?

Lastly, most honoured Sir, I have gone further than I intended. I do not wish to annoy you further with things which (I know) you will not admit, since you follow other principles which differ widely from my own, etc.

[THE HAGUE, *October* 1674.]

LETTER LVII

EHRENFRIED WALTER VON TSCHIRNHAUS

TO THE VERY DISTINGUISHED AND ACUTE PHILOSOPHER
B. D. S.

EXCELLENT SIR,

I am surprised, at all events, that in the same way that Philosophers prove that something is false they also show its truth. For Descartes, at the beginning of his *Method*, thinks that the certainty of the understanding is the same for all: he proves it, moreover, in the *Meditations*. This is also approved by those who think that in this way they can prove something which is certain, in such a way that it is accepted as indubitable by individual men.

But, dismissing these things, I appeal to experience, and I humbly beg you to attend carefully to the following points. For thus it will be understood that if one of two men affirms something, but the other denies it, and they both speak as they think, then although they appear to contradict one another in words, yet when their thoughts are considered, they both (each according to his own thought) speak the truth. This I mention because it is of immense use in common life, and countless controversies, and the disputes which follow them, could be averted by the observation of this one fact, although this truth in thought is not always absolutely true, but only in so far as we grant what is assumed as true of the understanding. This Rule is so universal that it is found among all men, not excepting even those who are mad or asleep: for whatever they say that they see (although it may not appear so to us) or have seen, it is most certain that it really is so.

This is also very clearly seen in the case under consideration, namely, that of Free Will. For both, he who

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argues for, as well as he who argues against it, seem to me to speak the truth, namely each in accordance with his conception of Freedom. For Descartes calls that free which is compelled by no cause ; you, on the other hand, that which is not determined to something by a cause. Therefore I agree with you in saying that we are in everything determined towards something by a definite cause, and so we have no free will. On the other hand, however, I also think with Descartes that in certain things (as I shall soon show) we suffer no sort of compulsion, and thus we have free will. I will take an example from the present.

The state of the question is threefold. *First*, have we absolutely power over things which are outside us ? This is denied. For instance, my writing this letter now is not absolutely in my power, because I would certainly have written before now if I had not been hindered either by my absence or by the presence of friends. *Secondly*, have we absolutely power over the motions of our body, which follow when the will determines them thereto ? I answer with the reservation, if we are in sound physical health. For if I am well I can always set myself to write, or refrain from it. *Thirdly*, when I can take control over my reason, can I exercise it with complete freedom, that is, absolutely ? To this I answer in the affirmative. For, without contradicting his own consciousness, who would deny that I can in my thoughts think that I want to write or not to write ? And in so far as the operation itself is concerned, since external causes permit (this concerns the second point) that I should have the power alike of writing or of not writing, I agree with you that there are causes which determine me to write now, namely because you first wrote to me, and by that act requested me to answer at the first opportunity, and because there is now an opportunity which I would not willingly miss. I cer-

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tainly assert, on the evidence of consciousness, and in agreement with Descartes, that such things do not therefore force me, and that I nevertheless really can (as it seems impossible to deny) refrain from writing, notwithstanding these reasons. Also if we were forced by external things, who could acquire a habit of virtue? Indeed, if this were granted, all wickedness would be excusable. But how often does it not happen that when we are determined to something by things outside us, we do nevertheless resist it with a firm and constant spirit?

To give a clearer explanation of the above Rule: You both indeed tell the truth, each according to your conception; but if we look for absolute truth, then it is only found in the view of Descartes. For in your thought you presuppose as something certain that the essence of Freedom consists in the fact that we are not determined by anything. If this is granted, both will be right. Although the essence of anything consists in that without which it cannot really be conceived, yet liberty can surely be clearly conceived, even if in our actions we are determined towards something by external causes, or even if there are always causes which are an incitement to us to direct our actions in a certain way, yet clearly do not produce the whole result; but freedom can not be conceived at all if it is supposed that we are forced. See further Descartes, Volume I, *Letters* 8 and 9, also Volume II, page 4. But these will be enough. I pray you to answer these difficulties, and you will find me not only grateful but, health permitting, also

Your most devoted
N. N.

8 October 1674.

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LETTER LVIII

B. D. S.

TO THE VERY LEARNED AND EXPERT
MR. G. H. SCHULLER.

Reply to the Preceding.

MOST EXPERT SIR,

Our friend J. R. has sent me the letter which you were good enough to write to me, together with your friend's criticism of Descartes' and my opinion about free will, which were most acceptable to me. And although just now besides being unwell, I am very much distracted by other matters, nevertheless your exceptional kindness, or, what I consider most important, the love of truth which possesses you, compels me to satisfy your wish to the best of my slender capacity. I do not indeed know what your friend means, before he appeals to experience and asks for careful attention. He then adds, *If one of two men affirms something of a thing but the other denies it, etc.* This is true if he means that the two, although they use the same words, are yet thinking of different things. Of this I once sent some examples to our friend J. R., and I am now writing to ask him to communicate them to you.

I therefore pass on to that definition of Freedom which he says is mine ; but I do not know whence he has taken it. I say that that thing is free which exists and acts solely from the necessity of its own nature ; but that that thing is under compulsion which is determined by something else to exist, and to act in a definite and determined manner. For example, God, although He exists necessarily, nevertheless exists freely, since He exists solely from the necessity of His own nature. So also God freely understands Himself and absolutely all things, since it follows solely from the necessity of His own nature that He should understand everything. You see,

therefore, that I do not place Freedom in free decision, but in free necessity.

Let us, however, descend to created things, which are all determined by external causes to exist, and to act in a definite and determined manner. In order that this may be clearly understood, let us think of a very simple thing. For instance, a stone receives from an external cause, which impels it, a certain quantity of motion, with which it will afterwards necessarily continue to move when the impact of the external cause has ceased. This continuance of the stone in its motion is compelled, not because it is necessary, but because it must be defined by the impact of an external cause. What is here said of the stone must be understood of each individual thing, however composite and however adapted to various ends it may be thought to be: that is, that each thing is necessarily determined by an external cause to exist and to act in a definite and determinate manner.

Next, conceive, if you please, that the stone while it continues in motion thinks, and knows that it is striving as much as possible to continue in motion. Surely this stone, inasmuch as it is conscious only of its own effort, and is far from indifferent, will believe that it is completely free, and that it continues in motion for no other reason than because it wants to. And such is the human freedom which all men boast that they possess, and which consists solely in this, that men are conscious of their desire, and ignorant of the causes by which they are determined. So the infant believes that it freely wants milk; the boy when he is angry that he freely wants revenge; the timid that he wants to escape. Then too the drunkard believes that, by the free decision of his mind, he says those things which afterwards when sober he would prefer to have left unsaid. So the delirious, the garrulous and many others of the same sort, believe that they are

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acting in accordance with the free decision of their mind, and not that they are carried away by impulse. Since this preconception is innate in all men, they are not so easily freed from it. For, although experience teaches sufficiently and more than sufficiently that the last thing that men can do is to moderate their appetites, and that often, when they are tormented by conflicting feelings, they see the better and follow the worse, yet they believe themselves to be free, because they desire some things slightly, and their appetites for these can easily be repressed by the memory of some other thing, which we frequently call to mind.

With these remarks, unless I am mistaken, I have sufficiently explained what my view is about free and compelled necessity, and about imaginary human freedom: and from this it will be easy to answer the objections of your friend. For, when he says with Descartes, that he is free who is compelled by no external cause, if by a man who is compelled he means one who acts against his will, I admit that in certain matters we are in no way compelled, and that in this respect we have a free will. But if by compelled he means one who, although he does not act against his will, yet acts necessarily (as I explained above), then I deny that we are free in anything.

Your friend, on the contrary, asserts that *we can exercise our reason with complete freedom, that is, absolutely*. He persists in this opinion with sufficient, not to say too much, confidence. *For who*, he says, *without contradicting his own consciousness, would deny that in my thoughts I can think that I want to write, and that I do not want to do so*. I should very much like to know of what consciousness he speaks, other than that which I explained above in my example of the stone. Indeed, in order not to contradict my consciousness, that is, my reason and experience, and in order not to foster preconceived ideas

and ignorance, I deny that I can, by any absolute power of thought, think that I want, and that I do not want to write. But I appeal to his own consciousness, for he has doubtless experienced the fact that in dreams he has not the power of thinking that he wants, and does not want to write; and that when he dreams that he wants to write he has not the power of not dreaming that he wants to write. I believe he has had no less experience of the fact that the mind is not always equally capable of thinking about the same subject; but that according as the body is more fit for the excitation of the image of this or that object, so the mind is more capable of contemplating this or that object.

When he adds, further, that the causes of his applying himself to writing have stimulated him to write, but have not compelled him, he means nothing else (if you will examine the matter fairly) than that his mind was at that time so constituted that the causes which on other occasions, that is, when they were in conflict with some powerful feeling, could not influence him, could now influence him easily, that is, that causes which on other occasions could not compel him, have now compelled him, not to write against his will, but necessarily to desire to write.

Again, as to his statement that *if we were compelled by external causes then no one would be able to acquire the habit of virtue*, I do not know who has told him that we cannot be of a firm and constant disposition as a result of fatalistic necessity, but only from the free decision of the Mind.

As to his last addition, that *if this were granted all wickedness would be excusable*; what then? For wicked men are no less to be feared, and no less pernicious, when they are necessarily wicked. But on these things, look up, if you please, Part II, Chapter VIII, of my *Appendix to Descartes' Principles, Books I and II, geometrically demonstrated*.

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Lastly, I should like your friend, who makes these objections to my theory, to tell me how he conceives human virtue, which he says arises from the free decision of the mind, together with the preordination of God. For if, with Descartes, he admits that he does not know how to reconcile them, then he is endeavouring to hurl against me the weapon by which he has already been pierced. But in vain. For if you will attentively examine my view, you will see that it is entirely consistent, etc.

[THE HAGUE, *October* 1674.]

LETTER LIX

EHRENFRIED WALTER VON TSCHIRNHAUS

TO THE VERY DISTINGUISHED AND ACUTE PHILOSOPHER
B. D. S.

MOST DISTINGUISHED SIR,

When are we to have your Method of rightly controlling the Reason in acquiring knowledge of unknown truths, as also your General Physics? I know that you have recently made great advances in these subjects. The first was already known to me, the second is known to me from the lemmas added to the second part of the *Ethics*, by means of which many difficulties in Physics are easily solved. If you have the leisure and the opportunity, I humbly ask you to give me the true Definition of Motion, and the explanation of it, and also to tell me in what way, since Extension considered in itself is indivisible, immutable, etc., we are able to infer a priori that so many figures and such manifold varieties of them can arise, and consequently, the existence of figure in the particles of a body which constitute the form of another body. When we were together you pointed out to me the method which you employ in searching for truths as yet unknown. I

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find from experience that this method is most excellent, and yet very easy, as far as I understand it; and I can assert that, with the help of this one observation of yours, I have made great advances in Mathematics. I therefore wish that you would communicate to me the true definition of an adequate, a true, a false, a fictitious and a doubtful idea. I have sought for the difference between a true and an adequate idea. So far, however, I have been able to discover nothing except that when I have investigated a thing and a certain concept or idea, then, I say, (in order to discover further whether this true idea was also the adequate idea of something) I asked myself what is the cause of this idea or concept; when I discovered this, I again asked what is the cause of this concept, and so I pushed on my inquiry into the causes of the causes of ideas, until I at length obtained such a cause for which, in turn, I could see no other cause except that among all the possible ideas which I possess this one also exists. If, for example, we ask, wherein consists the true origin of our Errors, Descartes will answer, in the fact that we give assent to things not yet clearly perceived. But even if this is a true idea of this matter, I shall not yet be able to determine all that it is necessary to know about it, unless I have also an adequate idea of this thing. In order to attain to this I again inquire into the cause of this concept, that is, how it comes about that we give our assent to things not clearly understood, and I answer that this happens through lack of knowledge. Here, however, one cannot ask again, what is the cause why we are ignorant of some things, and from this I see that I have discovered an adequate idea of our errors.

Here, by the way, I ask you whether, since it is established that many things which are expressed in infinite modes have an adequate idea of themselves, and that from any adequate idea all that can be known

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of the thing can be derived, though it may be elicited more easily from one idea than from another, whether, I say, there is any means of knowing which idea should be used rather than another. Thus, for example, an adequate idea of a circle is one based on the equality of the radii, so also is one that is based on its infinite mutually equal right angles made by the intersection of two lines, and so, moreover, it has innumerable expressions each of which explains adequately the nature of a circle; and although from each of these expressions all other things which can be known about a circle may be deduced, yet the deduction is easier from one of them than from another. So also he who considers the applicates of curves will deduce many things concerning their measurement, but we discover them with greater ease if we consider their Tangents, etc. Thus I wished to show you how far I have progressed in this investigation: I await its completion, or, if I have anywhere made a mistake, its correction, and also the desired Definition. Farewell.

5 January 1675.

LETTER LX

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. EHRENFRIED WALTER VON TSCHIRNHAUS.

Reply to the Preceding.

MOST NOBLE SIR,

I recognize no other difference between a true and an adequate idea than that the word true refers only to the agreement of the idea with its ideatum, while the word adequate refers to the nature of the idea in itself; so that there is really no difference between a true and an adequate idea except this extrinsic relation.

But in order that I may know from which idea of a

thing, out of many, all the properties of the object may be deduced, I observe one thing only, that the idea or definition of the thing should express its efficient cause. For example, in order to investigate the properties of a circle, I ask whether from this idea of a circle, namely, that it is composed of innumerable right angles, I can deduce all its properties: I inquire, I say, whether this idea involves the efficient cause of a circle. Since this is not so, I seek another, namely that a circle is the space which is described by a line of which one point is fixed and the other moveable. Since this Definition expresses the efficient cause, I know that I can deduce from it all the properties of a circle, etc. So also, when I define God as the supremely perfect Being, since this definition does not express the efficient cause (for I conceive that an efficient cause can be internal as well as external) I shall not be able to discover all the properties of God from it; but when I define God as *a Being*, etc. (see Definition VI, Part I, of the *Ethics*).

As for your other problems, namely those about Motion and those which concern Method, since my views have not yet been written out in proper order, I reserve them for another occasion.

As to your assertion that he who considers the ap-plicates of curves will deduce many things about their measurement, but that this can be done with greater ease by considering Tangents, etc., I think, on the contrary, that even by considering Tangents many other things will be deduced with more difficulty than by considering the co-ordinates of curves; and I absolutely assert that from certain qualities of a thing (whatever the given idea) some things will be discovered more easily, others with greater difficulty (although they all concern the nature of that thing). But this only, I think, must be kept in view, that the idea to be sought is such that all the properties may be elicited

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from it, as has been said above. For if one is to deduce from anything all the possible properties, it necessarily follows that the last ones will be more difficult than the prior ones, etc.

[THE HAGUE, *January* 1675.]

LETTER LXI

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

Many greetings.

I was unwilling to miss this convenient opportunity which the very learned Mr. Bourgeois, a Doctor of Medicine of Caen, and an adherent of the Reformed Religion, who is just going to Holland, offers me, of informing you that some weeks ago I expressed to you my gratitude for sending me your Treatise, though it was never delivered, but that I doubt whether my letter duly came to your hands. *In it I indicated my opinion of that Treatise : this opinion, indeed, after having examined and weighed the matter more closely, I now think was very premature.* Certain things in it seemed to me, at the time, to tend to harm religion, when I measured it by the standard furnished by the crowd of Theologians, and the accepted Formulae of the Creeds (which seem to be too much inspired by partizanship). But, on reconsidering the whole matter more closely, many considerations occur to me which go to persuade me that you are so far from intending any harm to true Religion and sound Philosophy that, on the contrary, you labour to commend and establish the true object of the Christian Religion, and the divine sublimity and excellence of a fruitful philosophy. Since, therefore, I now believe that this is what is really in your mind, I do most earnestly beg you to be kind enough to explain what you are now preparing and considering to this

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end, in frequent letters to your old and sincere friend, who whole-heartedly wishes the happiest issue of so divine an enterprise. I give you my sacred promise that I will divulge no part of them to any mortal, if you enjoin silence; I will merely endeavour to do this, namely, gradually to prepare the minds of good and wise men to embrace those truths which you will some time bring to light more fully, and to remove the prejudices which have been conceived against your Thoughts.

If I am not mistaken, you seem to me to have a very deep insight into the nature and powers of the human mind, and its union with our body. I earnestly beg you to be willing to tell me your thoughts on this subject. Farewell, most distinguished Sir, and continue to favour the most devoted admirer of your Teaching and virtue

HENRY OLDENBURG.

LONDON, 8 *June* 1675.

LETTER LXII

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

Now that our literary intercourse has been so happily renewed, most illustrious Sir, I do not wish to fail in the duty of friendship by allowing an interruption of our correspondence. Since I understand from your answer to me, dated 5 July, that you intend to publish your Five-Part Treatise, allow me, I pray, to advise you out of your sincere affection for me not to include anything which may appear to undermine the practice of Religious virtue. Especially so since there is nothing for which this degenerate and wicked age seeks more eagerly than the kind of doctrines whose conclusions seem to give encouragement to flagrant vices.

For the rest, I shall not refuse to receive some copies

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of the said Treatise. I would only ask you that, when the time comes, they should be addressed to a certain Dutch merchant, settled in London, who will then see to it that they are delivered to me. There will be no need to mention that such books have been forwarded to me. For, if only they come safely into my possession, I have no doubt that it will be easy for me to distribute them among my friends here and there, and to obtain a fair price for them. Farewell, and when you have time, write to

Your most devoted

HENRY OLDENBURG.

LONDON, 22 *July* 1675.

LETTER LXIII

G. H. SCHULLER

TO THE VERY DISTINGUISHED AND ACUTE PHILOSOPHER
B. D. S.

MOST NOBLE AND DISTINGUISHED SIR,

I should blush for my long silence, for which I could be accused of ingratitude for the favour which you of your kindness have shown to me though I did not deserve it, if I did not reflect that your generous kindliness is inclined to excuse rather than to accuse, and if I did not know that, for the common good of your friends, it makes you find time for such serious reflections as it would be culpable and wrong to disturb without special cause. For this reason, then, I kept silence, and was content, in the meantime, to hear from friends of your good health. But with the present letter I want to inform you that our most noble friend Mr. von Tschirnhausen is still in England and, like us, enjoys good health, and that in his letters (which he has sent to me) he has three times bidden me to convey his dutiful regards, and respectful greeting to you, Sir. He repeatedly begs me to ask you for the solution of the

following difficulties, and at the same time to beg you to send the desired answer to them.

These are, whether you, Sir, will please convince us by some direct proof,* and not by a reduction to impossibility, that we cannot know more attributes of God than thought and extension? Further, whether it follows from this that creatures consisting of other attributes, cannot on the contrary conceive any extension, and that thus it would seem that there must be constituted as many worlds as there are attributes of God. For instance, our world of extension, so to say, has so much amplitude; worlds consisting of other attributes would also have as much amplitude. And just as we perceive nothing besides extension except thought, so the creatures of those worlds must perceive nothing but the attributes of their own world and thought.

Secondly, since the understanding of God differs from our understanding in essence as well as in existence, it will, therefore, have nothing in common with our understanding, and consequently (according to Book I, Proposition III) God's understanding cannot be the cause of our understanding.

Thirdly, in the Scholium to Proposition X, you say that nothing in Nature is clearer than that each Being must be conceived under some attribute (this I fully understand) and that the more reality or being it has, the more attributes belong to it. Hence it would seem to follow that there exist Beings which have three, four, or more Attributes, whereas from what has been proved it could be inferred that each Being consists of two attributes only, namely a certain attribute of God and the idea of that attribute.

Fourthly, I should like examples of those things which

* I beg you earnestly please to solve the doubts which are raised here, and to send me your answer to them.

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are immediately produced by God, and of those which are produced by some infinite mediate modification. Thought and Extension seem to me to be of the first kind; of the second, Understanding in the case of thought, and Motion in the case of extension, etc.*

These are the questions which our above-mentioned Tschirnhausen desires with me to have elucidated by you, Sir, if your spare time permits. Moreover, he says that Mr. Boyle and Oldenburg had formed a strange conception of your person. Not only has he removed this, but he has added reasons which induced them not only to consider you again in a most worthy and favourable manner, but also to value very highly your *Tractatus Theologico-Politicus*. In obedience to your instructions, I dared not inform you of this. Be assured that I am at your service in every way, and that I remain,

Most noble Sir,

Your very devoted Servant

G. H. SCHULLER.

AMSTERDAM, 25 *July* 1675.

Mr. a. Gent and J. Riew. dutifully greet you.

LETTER LXIV

B. D. S.

TO THE VERY LEARNED AND EXPERT MR. G. H. SCHULLER.

Reply to the Preceding.

MOST EXPERT SIR,

I rejoice that at last an opportunity has presented itself to you to refresh me with one of your letters, which are always most welcome to me. I earnestly beg you to do so frequently, etc.

I turn to your doubts; and in reply to the first, I

* The face of the whole of Nature which, although it varies in infinite ways remains always the same. See Scholium to Proposition XIII, Part II.

say that the human mind can only get to know those things which the idea of an actually existing body involves, or what can be inferred from this idea. For the power of each thing is defined only by its essence (according to *Ethics*, Proposition VII, Part III). But the essence of the Mind (Proposition XIII, Part II) consists only in this, that it is the idea of a Body actually existing. Therefore the mind's power of understanding only extends to those things which this idea of the Body contains in itself, or which follow from the same. But this idea of the Body neither involves nor expresses any other attributes of God than Extension and Thought. For its ideatum, namely, the Body (by Proposition VI, Part II) has God as its cause, in so far as He is considered under the attribute of Extension and not in so far as He is regarded under any other attribute. Therefore (by Axiom 6, Part I) this idea of the Body involves the knowledge of God in so far only as He is considered under the attribute of Extension. Then, this idea, in so far as it is a mode of Thought, also (by the same Proposition) has God for its cause in so far as He is a thinking thing, and not in so far as He is considered under another attribute. Therefore (by the same Axiom) the idea of this idea involves the knowledge of God, in so far as He is considered under the attribute of Thought, and not in so far as He is considered under any other attribute. Thus it is clear that the human Mind, or the idea of the human Body, neither involves nor expresses any other attribute of God besides these two. Moreover (by Proposition X, Part I) no other attribute of God can be deduced or conceived from these two attributes or from their modifications. Therefore I conclude that the human mind cannot attain to knowledge of any attribute of God except these two, as has been asserted.

As to your additional question, whether for this reason there must be constituted as many worlds as

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there are attributes, see *Ethics*, Scholium to Proposition VII, Part II. This proposition could also be more easily proved by reduction to absurdity. This kind of proof I am accustomed to prefer to the other, when the Proposition is negative, because it is more in accordance with the nature of such propositions. But since you demand only a positive proof, I pass on to the other, that is, whether a thing can be produced by another whose essence and existence are different : for things which are so different from one another appear to have nothing in common. But since all individual things, except those which are produced by things like themselves, differ from their causes in essence as well as in existence, I see here no reason for doubt.

In what sense I understand that God is the efficient cause of things, of their essence as well as of their existence, I believe I have sufficiently explained in the *Ethics*, Scholium and Corollary to Proposition XXV, Part I.

The axiom of the Scholium to Proposition X, Part I, as I suggested at the end of that Scholium, we form from the idea which we have of an absolutely infinite Being, and not from the fact that there are, or may be, beings which have three, four, or more attributes.

Lastly, the examples for which you ask are, of the first kind, in Thought, absolutely infinite understanding, but in Extension, motion and rest ; of the second kind, the face of the whole Universe, which, although it varies in infinite modes, yet remains always the same ; on this subject see Scholium 7 to the Lemma before Proposition XIV, Part II.

With these remarks, most distinguished Sir, I believe I have answered your objections and those of our friend. If, however, you consider that any doubt still remains, I beg you not to mind telling me so, in order that I may, if possible, remove it.

Farewell, etc.

THE HAGUE, 29 July 1675.

LETTER LXV—FROM TSCHIRNHAUS 1675

LETTER LXV

EHRENFRIED WALTER VON TSCHIRNHAUS

TO THE VERY ACUTE AND LEARNED PHILOSOPHER B. D. S.

MOST ILLUSTRIOUS SIR,

I should like from you a proof of your assertion that the soul cannot apprehend more attributes of God than Extension and Thought. Although I clearly see this, yet it seems to me that the contrary can be deduced from the Scholium to Proposition VII, Part II of the *Ethics*, perhaps only because I do not sufficiently correctly understand the meaning of this Scholium. I, therefore, decided to explain in what way I deduce this, begging you most earnestly, most illustrious Sir, to be willing to assist me with your usual kindness whenever I do not rightly follow your meaning.

Now my arguments are in this plight. Although I gather from them that the world is certainly one, yet it is also no less clear from them that it is expressed in infinite modes, and, therefore, that every individual thing is expressed in infinite modes. Hence it seems to follow that that Modification which constitutes my Mind, and that Modification which expresses my Body, although it is one and the same Modification, is yet expressed in infinite modes, in one mode through Thought, in another through Extension, in a third through an attribute of God unknown to me, and so on to infinity, because there are infinite Attributes of God, and the Order and Connection of the Modifications seems to be the same in all. Hence there now arises the question, why the Mind which represents a certain Modification, which same Modification is expressed not only in Extension, but in infinite other modes, why, I say, it perceives only that Modification expressed through

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Extension, that is, the human Body, and no other expression through other attributes.

But time does not allow me to pursue these questions at greater length. Perhaps all these doubts will be removed by continued reflection.

LONDON, 12 *August* 1675.

LETTER LXVI

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. EHRENFRIED WALTER VON TSCHIRNHAUS.

Reply to the Preceding.

MOST NOBLE SIR,

In answer to your objection I say that although each thing is expressed in infinite modes in the infinite understanding of God, yet the infinite ideas by which it is expressed cannot constitute one and the same mind of an individual thing, but an infinity of minds : seeing that each of these infinite ideas has no connection with the others, as I explained in the same Scholium to Proposition VII, Part II of the *Ethics*, and as is evident from Proposition X, Part I. If you will pay a little attention to these, you will see that no difficulty remains, etc.

THE HAGUE, 18 *August* 1675.

LETTER LXVII

ALBERT BURGH

TO THE VERY LEARNED AND ACUTE MR. B. D. S.

Many greetings.

When leaving my country, I promised to write to you if anything noteworthy occurred during my journey. Since, now, an occasion has presented itself, and one, indeed, of the greatest importance, I discharge my debt, and write to inform you that, through

the infinite Mercy of God, I have been restored to the Catholic Church, and have been made a member thereof. How this came to pass you will be able to learn in greater detail from the letter that I wrote to the most illustrious and experienced Mr. D. Craenen, Professor at Leyden. I will, therefore, now only add some brief remarks, which concern your own advantage.

The more I formerly admired you for your penetration and acuteness of mind, the more do I now weep for you and deplore you; for although you are a very talented man, and have received a mind adorned by God with brilliant gifts, and are a lover of truth, indeed eager for it, yet you suffer yourself to be led astray and deceived by the wretched and most haughty Prince of evil Spirits. For, all your philosophy, what is it but a mere illusion and a Chimera? Yet you stake on it not only your peace of mind in this life, but also the eternal salvation of your soul. See on what a miserable foundation all your interests rest. You presume to have at length discovered the true philosophy. How do you know that your Philosophy is the best among all those which have ever been taught in the world, or are actually taught now, or ever will be taught in the future? And, to say nothing about the thought of the future, have you examined all those philosophies, ancient as well as modern, which are taught here and in India and everywhere throughout the world? And, even if you have duly examined them, how do you know that you have chosen the best? You will say: my philosophy is in accord with right reason, the others are opposed to it. But all the other philosophers except your disciples differ from you, and, with the same right, they declare each about himself and his philosophy what you do about yours, and they accuse you, as you accuse them, of falsity and error. It is clear, therefore, that, in order that the truth of your philosophy may become manifest, you

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must put forward arguments which are not common to the other philosophies, but which can be applied to yours alone. Otherwise it must be confessed that your philosophy is as uncertain and as worthless as the rest.

However, confining myself now to your book, to which you have given that impious title, and taking your Philosophy together with your Theology, for you yourself really blend them, although, with diabolical cunning, you pretend to show that the one is distinct from the other, and that they have different principles, I proceed thus—

Perhaps you will say: Others have not read Holy Scripture as frequently as I have, and it is from Holy Scripture itself, the recognition of whose authority constitutes the difference between Christians and the remaining peoples of the whole world, that I prove my views. But how? I explain Holy Scripture by applying the clear texts to the more obscure, and from this interpretation of mine I form my Doctrines, or confirm those which are already produced in my brain.

But I adjure you seriously to consider what you say. For how do you know that you make the said application correctly, and, next, that the application, even if made correctly, is sufficient for the interpretation of Holy Scripture, and that you are thus putting the interpretation of Holy Scripture on a sound basis? Especially since Catholics say, and it is very true, that the whole Word of God is not given in writing, so that Holy Scripture cannot be explained through Holy Scripture alone, I will not say, by one man but not even by the Church itself, which is the sole interpreter of Holy Scripture. For the Apostolic traditions must also be consulted. This is proved from Holy Scripture itself, and by the testimony of the Holy Fathers, and it is in accord not only with right reason but also with experience. Since, therefore, your principle is most false, and leads to perdition,

where will your whole teaching remain, which is founded and built upon this false foundation?

So then, if you believe in Christ crucified, acknowledge your most evil heresy, recover from the perversion of your nature, and be reconciled with the Church.

For do you prove your views in a way which is different from that in which all the Heretics who have left God's Church in the past, or are leaving it now, or will leave it in the future, have done, do, or will do? For they all employ the same principle as you do, that is, they make use of Holy Scripture alone for the formation and confirmation of their dogmas.

Do not flatter yourself because, perhaps, the Calvinists or the so-called Reformers, or the Lutherans, or the Mennonites, or the Socinians etc. cannot refute your doctrine: for all these, as has already been said, are as wretched as you are, and, like you, sit in the shadow of death.

If, however, you do not believe in Christ, you are more wretched than I can say. But the remedy is easy: return from your sins, and realize the fatal arrogance of your wretched and insane reasoning. You do not believe in Christ. Why? You will say: Because the teaching and life of Christ are not consistent with my principles, nor is the doctrine of Christians about Christ consistent with my doctrine. But I repeat, do you then dare to think yourself greater than all those who have ever arisen in the State or Church of God, than the Patriarchs, Prophets, Apostles, Martyrs, Doctors, Confessors and Virgins, Saints without number, and, in your blasphemy, even than Our Lord Jesus Christ Himself? Do you alone surpass these in doctrine, in your manner of life, and in every other respect? Will you, you wretched little man, vile worm of the earth, ay, ashes, food for worms, dare, in your unspeakable blasphemy, to put yourself above the Incarnate, Infinite

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Wisdom of the Eternal Father? Will you alone consider yourself wiser, and greater than all those who, from the beginning of the world, have belonged to the Church of God, and have believed or still believe that Christ will come, or already has come? On what foundation does your bold, mad, pitiable and execrable arrogance rest?

You deny that Christ is the son of the living God, the Word of the eternal wisdom of the Father, made manifest in the flesh, who suffered and was crucified for the human race. Why? Because all this does not correspond to your principles. But, besides the fact that it has now been proved that you have not the true principles but false, rash, and absurd ones, I will now say more, namely, that, even if you had relied on true principles, and based all your views on them, you would not be more able to explain, by means of them, all things which exist, or have happened, or happen in the world, nor ought you to assert boldly that something is really impossible, or false, when it seems to be opposed to these principles. For there are very many, indeed innumerable, things which you will not be able to explain, even if there is some sure knowledge of natural things; you will not even be able to remove the manifest contradiction between such phenomena and your explanations of the rest, which are regarded by you as quite certain. From your principles you will not explain thoroughly even one of those things which are achieved in witchcraft and in enchantments by the mere pronunciation of certain words, or simply by carrying about the words, or characters, traced on some material, nor will you be able to explain any of the stupendous phenomena among those who are possessed by dæmons, of all of which I have myself seen various instances, and I have heard most certain evidence of innumerable happenings of the kind from very many most trustworthy persons, who spoke with one voice.

How will you be able to judge of the essences of all things, even if it be granted that certain ideas which you have in your mind, adequately conform to the essences of those things of which they are the ideas? For you can never be sure whether the ideas of all created things exist naturally in the human mind, or whether many, if not all, can be produced in it, and actually are produced in it, by external objects, and even through the suggestion of good or evil spirits, and through a clear divine revelation. How, then, without considering the testimony of other men, and experience of things, to say nothing now of submitting your judgment to the Divine omnipotence, will you be able, from your principles, to define precisely and to establish for certain the actual existence, or non-existence, the possibility, or the impossibility, of the existence of, for instance, the following things (that is, whether they actually exist, or do not exist, or can exist, or cannot exist, in Nature), such as divining rods for detecting metal and underground waters; the stone which the Alchemists seek, the power of words and characters; the apparitions of various spirits both good and evil, and their power, knowledge and occupation; the restoration of plants and flowers in a glass phial after they have been burnt; Syrens; pygmies very frequently showing themselves, according to report, in mines; the Antipathies and Sympathies of very many things; the impenetrability of the human body, etc.? Even if you were possessed of a mind a thousand times more subtle and more acute than you do possess, you would not be able, my Philosopher, to determine even one of the said things. If in judging these and similar matters you put your trust in your understanding alone, you no doubt already think in this way about things of which you have no knowledge and no experience, and which you, therefore, consider impossible, but which in reality should seem

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only uncertain until you have been convinced by the testimony of very many trustworthy witnesses. Thus, I imagine, would Julius Caesar have thought, if some one had told him that a certain powder could be made up, and would become common in subsequent ages, the strength of which would be so effective that it would blow up into the air castles, whole cities, even the very mountains, and such too that wherever it is confined, when ignited, it would expand suddenly to a surprising extent, and shatter everything that impeded its action. Julius Caesar would in no wise have believed this; but he would have derided this man with loud jeers as one who wanted to persuade him of something contrary to his own judgment and experience and the highest military knowledge.

But let us return to the point. If you do not know the aforementioned things, and are unable to pronounce on them, why will you, unhappy man swollen with diabolical pride, rashly judge of the awful mysteries of the life and Passion of Christ, which Catholic teachers themselves pronounce incomprehensible? Why, moreover, will you rave, chattering foolishly and idly about the innumerable miracles, and signs, which, after Christ, his Apostles and Disciples and later many thousands of Saints performed in evidence and confirmation of the truth of the Catholic Faith, through the omnipotent power of God, and innumerable instances of which, through the same omnipotent Mercy and lovingkindness of God, are happening even now in our days, throughout the whole world? If you cannot contradict these, as you certainly cannot, why do you object any longer? Give in, turn away from your errors and your sins; put on humility and be born again.

But let us also descend to truth of fact, as it really is the foundation of the Christian religion. How, if you give the matter due consideration, will you dare to deny

the efficacy of the consensus of so many myriads of men, of whom some thousands have been, and are, many miles ahead of you in doctrine, in learning, in true and rare importance, and in perfection of life? All these unanimously and with one voice declare that Christ, the incarnate son of the living God, suffered, and was crucified, and died for the sins of the human race, and rose again, was transfigured, and reigns in heaven as God, together with the eternal Father in the Unity of the Holy Spirit, and the remaining doctrines which belong here; and also that through the Divine power and omnipotence there were performed in the Church of God by this same Lord Jesus, and afterwards, in his name, by the Apostles and the other Saints, innumerable miracles, which not only exceeded human comprehension but were even opposed to common sense (and of these there remain even to this day countless material indications, and visible signs scattered far and wide throughout the world) and that such miracles still happen. Might I not in like manner deny that the ancient Romans ever existed in the world, or that the Emperor Julius Caesar, having suppressed the Liberty of the Republic, changed their form of government to a monarchy, if I disregarded the many monuments evident to all, which time has left us of the power of the Romans; if I disregarded the testimony of the most weighty authors who have ever written the histories of the Roman Republic and Monarchy, wherein they particularly treat of Julius Caesar; and if I disregarded the judgment of so many thousands of men who have either themselves seen the said monuments, or have put, and still put, their trust in them (seeing that their existence is confirmed by countless witnesses) as well as in the said histories, on the ground that I dreamed last night that the monuments, which have come down from the Romans, are not real things, but mere illusions; and

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similarly, that those stories which are told of the Romans are just like the stories which the books called Romances relate, puerile stories about Amadis de Gaula and similar Heroes ; also that Julius Caesar either never existed in the world, or if he existed was a melancholic man, who did not really crush the liberty of the Romans, and raise himself to the Throne of the Imperial Power, but was induced to believe that he had performed these achievements, either by his own foolish imagination or by the persuasion of friends who flattered him. Might I not further, in like manner, deny that the kingdom of China was taken by the Tartars, or that Constantinople is the seat of the Empire of the Turks, and innumerable similar things ? But would anyone think me sane if I denied these things, or absolve me from deplorable madness ? For all these things rest on the consensus of opinion of some thousands of men, and therefore their certitude is most evident, since it is impossible that all who assert such things and indeed very many others, should have deceived themselves, or should have wished to deceive others during so many centuries, indeed in all the centuries in succession from the earliest years of the world to this day.

Consider, secondly, that God's Church, continued in uninterrupted succession from the beginning of the world until this day, remains unmoved and solid, whereas all other Religions, Pagan and Heretic, have had a later beginning at least, if they have not also already had their end. The same too must be said of the Dynasties of Kingdoms, and of the opinions of all Philosophers.

Consider, thirdly, that, by the advent of Christ in the flesh, the Church of God was led from the religion of the Old to the religion of the New Testament, and was founded by Christ himself, the Son of the living God, and was afterwards extended by the Apostles, and

by their disciples and successors, men who, according to the world, were untaught, but who, nevertheless, put all the Philosophers to confusion, although they taught Christian doctrine which is opposed to common sense, and exceeds and transcends all human reasoning; men who, in the estimation of the world, were abject, vile, ignoble, who received no help from the power of earthly Kings or Princes, but who, on the contrary, were persecuted by them with every tribulation, and suffered all the other adversities of the world. But their work gained the more in growth, the more the most powerful Emperors strove to hinder it, or rather to suppress it by killing as many Christians as they could, with every kind of martyrdom. Consider that thus in a short time the Church of Christ was extended over the whole world, and at length, when the Roman Emperor himself, and the Kings and the Princes of Europe were converted to the Christian faith, the Ecclesiastical Hierarchy grew to such vast power as may be admired to-day. All this was brought to pass by means of charity, gentleness, patience, trust in God, and the other Christian virtues (not by the clash of arms, the violence of many armies, and the devastation of countries, as happens when worldly Princes extend their borders), and, according to the promise of Christ, the gates of Hell did not prevail against the Church. Here, too, consider the terrible, and unspeakably severe punishment by which the Jews were reduced to the last stage of misery and calamity, because they were the authors of Christ's crucifixion. Read through, consider, and reconsider the histories of all times, and you will find there that nothing similar has ever happened in any other society, not even in a dream.

Consider, fourthly, that in the essential character of the Catholic Church there are included, and are, in fact, inseparable from that Church, the following character-

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istics, namely, *Antiquity*, for, taking the place of the Jewish Religion, which was then true, it reckons its foundation by Christ sixteen and a half centuries ago, and throughout this antiquity it traces the line of its Shepherds in unbroken succession, wherefore, too, it comes to pass that the Church alone possesses the sacred and divine books in a pure and incorrupt state, together with the equally certain and immaculate tradition of the unwritten word of God ; *Immutability*, for its Doctrine and its administration of the sacraments are preserved inviolate as ordained by Christ himself and the Apostles, and, as is fitting, are maintained in their vigour ; *Infallibility*, for it determines and pronounces on all matters pertaining to faith with the highest authority, security and truth, according to the power bestowed on it by Christ for this purpose, and the direction of the Holy Ghost, whose Bride the Church is ; *Absence of Reform*, of which, since it cannot be corrupted, or be deceived, or deceive, it is clear that it never has any need ; *Unity*, for all its members hold the same beliefs, teach the same things about faith, and have one and the same altar, and have all the Sacraments in common, and at length in mutual obedience to one another, cooperate for the same end ; *Inseparability of any soul from the Church*, on any pretext whatsoever, on pain of incurring eternal damnation thereby, unless before death, it is again united with it through penitence ; whence it is clear that all heresies have departed from it, while it always remains self-consistent, and immovably firm, as built on a Rock ; its *Very Vast Extension*, for it has spread itself throughout the world, and visibly so, as can be affirmed of no other society, Schismatic, or Heretic, or Pagan, nor of any Political Government, or Philosophical Doctrine, just as none of the said characteristics of the Catholic Church belongs, or can belong, to any other Society ; and, lastly, *its*

Continuous Duration to the end of the world, of which the very Way, the Truth and the Life assured it, and which the experience of all the said characteristics, likewise promised and given to it by Christ himself, through the Holy Ghost, proves clearly.

Consider, fifthly, that the admirable order, by which the Church, such a massive body, is directed and governed, clearly shows that it depends to a special extent on the Providence of God, and that its administration is marvellously arranged, protected and directed by the Holy Ghost, just as the harmony, which is perceived in all the things of this universe, indicates the Omnipotence, Wisdom and Infinite Providence which has created and still preserves all things. For in no other society is there maintained such order, so beautiful, so strict and so unbroken.

Consider, sixthly, not only that innumerable Catholics of both sexes (of whom many still survive to-day, and some I have myself seen and known) have lived admirable and holy lives, and through the omnipotent power of God have performed many miracles in the revered name of Jesus Christ, while there still take place daily instantaneous conversions of very many persons from a very bad mode of life to a better, really Christian, and holy life, but that Catholics in general the holier and more perfect they are, the more humble they are, and the more do they consider themselves unworthy and cede to others the praise of a Holier life; and that even the greatest sinners do none the less retain a due regard for Holy things, confess their own wickedness, inveigh against their own vices and imperfections, and wish to be freed from them, and so become better: so that it may be said that the most perfect Heretic, or Philosopher, who ever lived, is scarcely worthy to be considered among the most imperfect Catholics. From all this it is also clear and very evidently follows that the Catholic doctrine

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is most wise and admirable in its profundity, in a word, surpasses all the other doctrines of this world, since, indeed, it makes men better than all the rest of any society, and teaches and gives them a safe way to peace of mind in this life, and to eternal salvation of the soul in the life which is to follow this.

In the seventh place, consider earnestly the public confession of many Heretics, hardened in their obstinacy, and of the most weighty Philosophers, namely that after adopting the Catholic faith they at length perceived and knew that they had been wretched, blind, ignorant, indeed foolish, and insane before, when, swollen with pride, and puffed up with the wind of arrogance, they falsely persuaded themselves that they far surpassed all the rest in perfection of doctrine, learning and life. Of these some afterwards lived a most holy life, and left behind them the memory of innumerable miracles, others went to meet martyrdom with alacrity and with the greatest joy; some, among whom was the Divine Augustine, even became the most subtle, the most profound, the wisest and therefore the most useful Doctors of the Church, indeed its pillars as it were.

Lastly, reflect on the very wretched and restless life of Atheists, although they sometimes make a display of great cheerfulness of mind, and wish to seem to spend their life joyfully, and with the greatest internal peace of mind. More especially consider their most unhappy and horrible death, of which I have myself seen some instances and know with equal certainty of many more, or rather of countless cases, from the report of others, and from History. Learn from their example to be wise in time.

Thus you see, or at least I hope you see, how rashly you entrust yourself to the opinions of your brain; (for if Christ is the true God, and at the same time man, as is most certain, see to what you are reduced: for by

persevering in your abominable errors, and most grave sins, what else can you expect but eternal damnation? How horrible this is, you may ponder for yourself) how little reason you have for laughing at the whole world with the exception of your wretched adorers; how foolishly proud and puffed up you become with the knowledge of the excellence of your talents, and with admiration for your very vain, indeed quite false, and impious doctrine; how shamefully you make yourself more wretched than the very beasts, by depriving yourself of the freedom of the will; nevertheless, even if you do not actually experience and recognize this, how can you deceive yourself by thinking that your works are worthy of the highest praise, and even of the closest imitation?

If you do not wish (which I will not think) that God or your neighbour should have pity on you, do you yourself at least take pity on your own misery, whereby you endeavour to make yourself more unhappy than you are now, or less unhappy than you will be, if you continue in this manner.

Come to your senses, you Philosopher, and realize the folly of your wisdom, the madness of your wisdom; put aside your pride and become humble, and you will be healed. Pray to Christ in the Most Holy Trinity, that he may deign to commiserate your misery, and receive you. Read the Holy Fathers, and the Doctors of the Church, and let them instruct you in what you must do that you may not perish, but have eternal life. Consult Catholics profoundly learned in their faith and living a good life, and they will tell you many things which you have never known and whereat you will be amazed.

I, for my part, have written this letter to you with truly Christian intention, first that you may know the great love that I bear you although a Gentile; and

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secondly to beg you not to continue to pervert others also.

I will therefore conclude thus : God is willing to snatch your soul from eternal damnation, if only you are willing. Do not hesitate to obey the Lord, who has so often called you through others, and now calls you again, and perhaps for the last time, through me, who, having obtained this grace through the ineffable Mercy of God Himself, pray for the same for you with my whole heart. Do not refuse : for if you will not hear God now when He calls you, the anger of the Lord Himself will be kindled against you, and there is the danger that you may be abandoned by His Infinite Mercy, and become the unhappy victim of the divine Justice which consumes all things in its anger. May the omnipotent God avert this fate to the greater glory of His name, and to the salvation of your soul, and also as a salutary and imitable example for your most unfortunate Idolaters, through our Lord and Saviour, Jesus Christ, who with the Eternal Father lives and reigns in the Unity of the Holy Ghost as God for all eternity. Amen.

FLORENCE, 3 *September* 1675.

LETTER LXVIIA

A LETTER OF NICHOLAS STENO TO THE REFORMER OF
THE NEW PHILOSOPHY, CONCERNING TRUE PHILOSOPHY.

I OBSERVE that in the book of which others have told me and I myself for various reasons suspect that you are the author, you refer all things to the public safety, or rather, which, according to you, is the aim of the public safety, to your own safety, although you have embraced means contrary to the desired safety, and have altogether neglected that part of yourself the safety of which was especially to be studied. It is clear that you have

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chosen means contrary to the desired safety because while you seek public peace you upset everything, and you expose yourself unnecessarily to the greatest danger while you study to free yourself from all dangers. That you have indeed altogether neglected that part of yourself whose safety was especially to be studied is clear because you grant to all men the liberty of thinking and speaking about God, each what he thinks fit, so long as this shall not be such as to destroy the obedience which, according to you, is due not so much to God as to men: which is the same thing as to confine the whole good of man to the goods of the civil government, that is, of the body. And it is nothing in your favour if you say that you reserve the care of your soul for philosophy, both because your philosophy and your mind work on a system formed from supposition and because you leave those who are incapable of your philosophy in such a state of life as if they were automata destitute of soul, and born with a body only.

Since I see a man in this darkness who was once very friendly to me and who, I hope, is not now unfriendly (for I am persuaded that the memory of an old companionship still preserves a mutual love) and since I remember that I too was stuck fast if not in altogether the same, yet in the gravest, errors, the more the magnitude of the danger from which I have been set free makes evident God's mercy towards me, the greater the commiseration for you by which I am moved to pray for the same heavenly grace for you which I have obtained not through any merit of my own, but solely through Christ's benevolence; and, in order that I may add deeds to my prayers, I offer myself as most ready to examine with you all those arguments which it shall please you to examine concerning the true way of true security which is to be found and followed. And, although your writings show that you are very far

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removed from the truth, yet the love of peace and truth which I formerly perceived in you and which even in this darkness is not extinct, makes me hope that you will give a ready ear to our Church, if only it has been sufficiently explained to you what it promises to all, and what it shows shall happen to those who are willing.

As to the first, the Church promises to all true security, eternal security, or abiding peace united with infallible truth, and at the same time offers the necessary means for obtaining so great a good ; first, sure forgiveness for what has been done amiss ; secondly, the most perfect pattern for right actions ; thirdly, a true practical perfection of all occupations according to this pattern ; and these it offers not to the learned alone or to those who are endowed with a subtle mind and are free from the vicissitudes of business, but without distinction to all persons of every age, sex and condition : and that this may not move you to wonder, you must know that there is indeed required the cooperation besides the non-resistance of the penitent, yet these things come to pass through the internal operation of Him who pronounces the outward word through the visible members of the Church. And although He says to the penitent that he must bewail his sins in the eyes of God and that works worthy of this sorrow must be displayed to the eyes of men, and that such things must be believed of God, the soul and the body etc., yet here it is not as though He meant that the penitent must undertake these things by his own strength : for no more is required than that he should not deny his assent and cooperation to those who do and believe these things, which alone is in his power, since to will these things and, when you have willed them, to do them, depend on the Spirit of Christ preventing, accompanying and perfecting our cooperation. If you have not yet understood this, I am not surprised, and I shall not now

act, nor indeed is it within my power to act so that you may understand these things : lest, however, they should seem to you altogether alien from reason, I shall briefly sketch the form of the Christian rule, in so far as this can be done by a new citizen of that state, or rather by a stranger who even now lags in the lowest seats.

The aim of this government is that man should direct not only his external actions but also his most secret thoughts according to the order established by the author of the universe, or, what is the same thing, that the soul should in every action look to God, its author and judge. With respect to this the life of any man tainted by sins is divided into four stages. The first stage is that in which the man performs all his actions as if his thoughts had not to be submitted to any judge, and this is the state of men either not yet purified by baptism or hardened by sin after baptism, and this stage is now called blindness because the soul does not take note of God who sees it, as when it is said, *Wisdom 2, For their wickedness blinded them* : now death because the soul lies hidden, as it were buried by the pleasures that are made to perish, in which sense Christ said, *Let the dead bury their dead*, and more things of the same kind. And it is not inconsistent with this state to speak much and often truly about God and the soul, but since he treats of these as of objects that are remote or external hence there are perpetual doubts about them, many contradictions, and frequent faults, if not of external actions, at least of thoughts, and this because the soul, destitute of the spirit that gives life to actions, like one that is dead, is moved by every wind of desire. The second stage is when man does not resist either the external or the internal word of God and begins to hear Him call, when recognizing by the ray of this supernatural light much that is false in his opinions and

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much that is vicious in his actions, he surrenders his whole self to God, who, administering to him His Sacraments through His servants, bestows on him an invisible grace under visible signs. This stage is the infancy of those who are born again, and is called childhood, and the word of God which is preached to them is compared to milk. The third stage is when through the continual exercise of virtue in taming the desires the spirit is prepared for the due understanding of the mysteries in the sacred letters, which are not grasped by the soul except when with a heart which is now pure it has attained the fourth stage when it begins to see God and obtains the wisdom of the perfect. And this is a perpetual union of the will and sometimes a mystic one, of which there are still examples among us to-day.

And so the whole ordering of Christianity is so directed that the soul may be transferred from a state of death to a state of life, that is, that that which at first had the eyes of the mind turned away from God and fixed on error, should then turn them away from every error and direct them always towards God in all the actions both of the body and of the mind, willing and not willing that which the author of it and of the whole order wills or does not will. And so if you will duly examine all things, you will find in Christianity alone a true philosophy, teaching things about God worthy of God, and things about man that are suitable to man, and leading its followers to true perfection in all their actions.

As to the second point, it alone fulfils all that it promises to those who do not resist, for the Catholic Church alone in every century has given perfect examples of virtues, and even now to-day is preparing for posterity examples to be venerated in persons of every age, sex, and condition. And one may not doubt of the good faith with which it promises eternal security, if it assures the means subordinate to this end, even to

a miracle, all with the greatest fidelity. I have not yet come to the end of my fourth year in the Church, and yet I have already seen such great examples of sanctity that I am truly compelled to say with David: *Thy testimonies are very sure*. I say nothing of Bishops, nothing of Priests whose words, heard by me in ordinary conversation, as I would testify even with my own blood, were the human symbols of a divine spirit, such is the blamelessness of their life and their eloquence; nor shall I name many who have embraced a strict rule of life, about whom I would say the same thing: I shall only adduce examples of two kinds, one of persons converted from the worst life to the most holy, the other of the ignorant, so-called in your way of speaking, but who obtained sublime notions of God, without any study, at the feet of the crucified. Of this kind I know those who are occupied with mechanical arts or bound to servile tasks, both men and women, who, through the exercise of divine virtues, have been carried to the praise of God and the understanding of the soul, whose life was holy, their words divine, and their works not seldom miraculous, such as the prediction of future events, and other things, which I pass over for the sake of brevity.

I know what objection you will be able to raise against miracles: and we do not trust in miracles alone but when we see that the effect of a miracle is the perfect conversion of the soul of someone from vices to virtues we shall rightly ascribe this to the author of all virtues. For I hold it the greatest of all miracles that those who have spent thirty or forty years or more in every license of their desires should as it were in a moment of time turn away from their wickedness and become the most holy examples of the virtues, examples such as I have seen with these eyes and clasped for joy with these hands, and which have often moved me to tears for myself

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and others. There is no God like our God. Surely, if you consider the history of the times, if you consider the present state of the Church, not in the books of our adversaries, not in the writings of those among us who are either dead or who, at least, have not yet put off their infancy, but, as is commonly done in the case of any other doctrine which is to be learnt, in the writings of those who, by the admission of our own people, are held to be true Catholics, you will see that the Church has always stood by its promises and is even now daily standing by them, and you will find there that evidence of credibility which will satisfy you, especially since you have much more kindly feelings for the Pope of Rome than the rest of our adversaries, and you admit the necessity of good works : but I beg you to examine ours in our writings, as your own teachings about the strength of prejudices will also easily persuade you to do.

I would gladly have produced the passages of Scripture which assign authority to the Pope, which you deny him for no other reason than because you do not find it in Scripture, and because you do not admit that the Christian commonwealth is similar to the commonwealth of the Jews. But since on the question of the interpretation of Scripture you hold views differing from our teaching, which admits only the interpretation of the Church, I pass over this argument on this occasion and say secondly, that the Christian rule, which seeks only unity of Faith, of Sacraments, and of Charity, admits of but one head, whose authority consists not in arbitrarily making any kind of innovations, which is the calumny of our adversaries, but in the fact that the things that belong to divine right, or necessary things, remain always immutable, but things that belong to human right, or indifferent things, are changed according as the Church judges it expedient for just causes, for instance, if it sees that the wicked are misusing indifferent

things for the overthrow of those that are necessary. Hence in interpreting Holy Scripture and in determining the doctrines of the Faith it so acts that the doctrines and the interpretations handed down by God through the Apostles may be preserved, and new and human doctrines may be proscribed. I shall not speak of other things which are subject to his authority since it is sufficient to make this monarchy probable to you that there should be the unity of beliefs and actions which was so often taught by Christ.

And so if you are led by the true love of virtue, if you delight in perfection of actions, seek out all the societies in the world and you will not find elsewhere that the pursuit of perfection is undertaken with such fervour or carried out with such joy as among us, which argument alone may serve you instead of a proof, for verily *this is the finger of God*.

But in order that you may know this more easily descend first within yourself and examine your soul, for if you duly examine all things you will find it dead; you move amidst matter in motion as though the moving cause were absent or were non-existent, for it is the religion of bodies not of souls that you introduce, and in the love of one's neighbour you see actions which are necessary for the preservation of the individual and for the propagation of the species. But you have little or almost no care for those actions by which we acquire the knowledge and love of our author. And you believe that all men are dead with you, who deny the light of grace to all men, since you have not experienced it yourself, and since you do not think that there exists any certainty but demonstrative certainty, and are ignorant of the certainty of a faith which is above all demonstration. But within what narrow limits is this demonstrative certainty of yours confined! Examine, I beg of you, all your demonstrations and bring me even

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one about the way in which the thinking thing and the extended thing are united, in which the moving principle is united with the body which is moved. But why do I ask you for demonstrations on these points, who will not be able even to explain to me their probable ways? Hence it comes about that you cannot explain the sense of pleasure or of pain apart from suppositions, and the stirring of love or of hate, and likewise the whole Philosophy of Descartes, however diligently examined and reformed by you, cannot demonstratively explain to me this one phenomenon, namely, how the impact of matter on matter is perceived by a soul that is united to matter. But of matter itself, do you, I ask, give us any other knowledge beyond a mathematical examination of quantity relating to figures not yet proved of any kind of particles except hypothetically? What is more alien from reason than to deny His divine words whose divine works are obvious to the senses, because they are inconsistent with the demonstrations of men made by means of an hypothesis? and, although you do not understand even that condition of the body through the mediation of which the mind perceives corporeal objects, to offer an opinion concerning that condition of it which, glorified by the change of the corruptible into the incorruptible, is again to be united to the soul?

I am sure that to discover new principles explaining the nature of God, of the soul and the body is the same thing as to discover fictitious principles, since even reason teaches that it is inconsistent with the divine providence that the true principles about these things should have been hidden from the most holy men for so many thousands of years, to be first discovered in this century by men who have not even attained the perfection of moral virtues: for I should believe that only those principles about God, the soul, and the body, are true, which are preserved from the beginning of created

things until this day always in one and the same society, the state of God. Among the first teachers of these principles that famous old man, who caused S. Justin to change from a worldly philosophy to the Christian philosophy, said that *there have been philosophers, ancient, blessed, just, beloved of God, who spoke under the inspiration of the Divine Spirit and prophesied that those things would come to pass which now do come to pass.* Principles put forward by such Philosophers and transmitted to us without interruption in the succession by successors like themselves, and even now to-day obvious through philosophers of the same kind to him who seeks them with a right reason, I should believe to be the only true principles, where the sanctity of life proves the truth of doctrine.

Examine the principles and the doctrines of this philosophy not in the writings of its enemies or in the writings of those who are its hangers-on, whom wickedness allies with the dead or ignorance allies with children, but in those of the masters thereof, perfect in all wisdom, dear to God and probably already sharing in eternal life, and you will acknowledge that the perfect Christian is the perfect philosopher, even if it were only an old woman, or a slave intent on servile tasks, or an ignorant man, in the world's judgment, seeking a living by washing rags. And you will exclaim with S. Justin, *I find this the one, and safe, and useful philosophy.*

If you wish, I shall willingly take upon myself the task of showing you partly the contradiction partly the uncertainty wherein your teachings are behind ours, although I should wish that you, recognizing one or two of the errors in your teachings in comparison with the evidence of credibility which stands out in ours, would make yourself a disciple of the said teachers, and among the first fruits of your penitence would offer to God a refutation of your own errors, acknowledged

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by yourself through the illumination of the Divine light, in order that if your first writings have turned aside a thousand souls from the true knowledge of God, the recantation of them reinforced by your own example may lead back to Him a thousand thousand with you as with another Augustine. I pray with all my heart that this grace may be yours. Farewell.

[FLORENCE, 1675.]

LETTER LXVIII

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to Letter LXII.

MOST NOBLE AND ILLUSTRIOUS SIR,

At the time when I received your letter of 22 July, I was setting out for Amsterdam with the intention of getting printed the work about which I had written to you. While I was engaged on this matter, a rumour was spread everywhere that a book of mine about God was in the press, and that in it I endeavoured to show that there is no God. This rumour was believed by many. Therefore certain Theologians (perhaps the authors of this rumour) seized the opportunity of bringing complaints against me before the Prince and the Magistrates; moreover the dull-witted Cartesians, because they are believed to be in my favour, and in order to free themselves from this suspicion, continued and even now continue to denounce my opinions and writings everywhere. When I heard all this from certain trustworthy men, who also said that the Theologians were intriguing against me everywhere, I decided to postpone the publication I was preparing, until I saw how the matter turned out, and I also intended to inform you what plan I would then follow. But the business seems to grow daily worse, and I am yet uncertain what to do.

LETTER LXVIII—TO OLDENBURG 1675

Meanwhile I do not want to delay my answer to your letter any longer. First, I thank you very much for your most friendly warning, of which, however, I should like a fuller explanation, so that I may know which you think are the doctrines that seem to undermine religious virtue. For I believe that the doctrines which seem to me to be in accord with reason are also most useful to virtue. Next, unless it cause you too much inconvenience, I should like you to point out to me the passages in the *Tractatus Theologico-Politicus* which have caused uneasiness to learned men. For I wish to elucidate this Treatise with some notes, and, if possible, to remove the prejudices which have been conceived against it. Farewell.

[THE HAGUE, *September* 1675.]

LETTER LXIX

B. D. S.

TO THE VERY LEARNED
MR. LAMBERT VAN VELTHUYSEN.

MOST DISTINGUISHED AND ILLUSTRIOUS SIR,

I am surprised that our friend Nieuwstad should have said that I was revolving in my mind a refutation of those writings which, for some time past, have been published against my treatise, and that among them I proposed to refute your manuscript. For I know that I never had it in my mind to refute any of my opponents, so unworthy did they seem to me of a reply. Nor do I remember having said to Mr. Nieuwstad anything except that I proposed to elucidate some of the more obscure passages of the said treatise with notes, and to add to these both your manuscript and my reply, if this could be done with your kind permission. This I asked him to seek from you, adding that, if perhaps you were unwilling to grant such permission, on the ground that some things in my

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answer were too harshly expressed, you should have complete power to correct or to delete them. Meanwhile, however, I feel no anger against Mr. Nieuwstad. I only wanted to show you how the matter stands, so that, if I cannot obtain the consent which I seek from you, I may at least show that I did not want to publish your manuscript against your wish. Although I believe that this can be done without any risk to your reputation, if only your name is not put to it, yet I will do nothing unless you give me permission to publish it.

But, to confess the truth, you would do me a far greater favour, if you would write down the arguments which you think you can bring against my treatise, and add them to your manuscript, and this I most earnestly beg you to do. For there is no one whose arguments I should more gladly consider, for I know that you are possessed only by the love of truth, and I know the singular fairness of your mind. Therefore, I beg you again and again not to mind undertaking this work, and to believe me

Your most respectful

B. DE SPINOZA.

MR. LAMBERT VELTHUYSEN,
DOCTOR OF MEDICINE,
DE NIEWE GRAGT,
UYTREGT.

[THE HAGUE, *Autumn* 1675.]

LETTER LXX

G. H. SCHULLER, MED. DR.

TO THE VERY EMINENT AND ACUTE PHILOSOPHER B. D. S.

AMSTERDAM, 14 *November* 1675.

MOST LEARNED AND EXCELLENT SIR, MOST HONOURED
PATRON,

I hope that my last letter, together with the
Process of an anonymous writer, has been duly delivered

to you, and also that you are now very well, even as I am very well. I had, however, received no letter from our friend Tschirnhaus for a space of three months, whence I had made the sad conjecture that his journey from England to France was ill-starred. But now, having received a letter, I am full of joy, and in accordance with his request it is my duty to communicate it to you, Sir, to convey to you his most dutiful greetings, to inform you that he has reached Paris safely, that he has met there Mr. Huygens, as we had advised him to do, and that for the same reason he has in every way adapted himself to his way of thinking so as to be highly esteemed by him. He mentioned that you, Sir, had advised him to associate with him (Huygens), and that you esteem his person very highly. This greatly pleased him, so that he replied that he likewise esteems your person greatly, and that he had lately obtained from you the *Tractatus Theologico-Politicus*. This is esteemed by very many there, and inquiries are eagerly made whether any other works of the same author are published. To this Mr. Tschirnhaus replied that he knew of none save the *Proofs of the First and Second Part of Descartes' Principles*. Otherwise he related nothing else about you, Sir, than the remarks just reported; hence he hopes that this will not displease you.

Huygens has recently had our Tschirnhaus summoned to him and informed him that Mr. Colbert desired some one to instruct his son in mathematics, and that if a position of this kind pleased him, he would arrange it. To this our friend replied by asking for some delay, and eventually declared that he was ready to accept. Huygens returned with the answer that the proposal pleased Mr. Colbert very much, especially as, owing to his ignorance of French, he will be compelled to speak to his son in Latin.

To the objection made most recently, he replies that

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the few words which I had written by your instruction, Sir, have revealed to him your meaning more deeply, and that he had already entertained these thoughts (since they chiefly admit of an explanation in these two ways) but that he has been led to follow that which was lately contained in his objection by the two following reasons. The first is that otherwise Propositions V and VII of Book II would seem to be opposed. In the former of these it is stated that the Ideata are the efficient causes of ideas, whereas the contrary seems to be shown by the proof of the latter, on account of the cited Axiom, 4, Part I. Maybe (as I rather persuade myself) I do not rightly apply the axiom in accordance with the Author's intention, which I would most willingly learn from him, if his affairs permit. The second cause which hindered me from following the given explanation was that in this way the Attribute Thought is made much more extensive than the other attributes ; but since each of the Attributes constitutes the Essence of God, I certainly do not see how the one does not contradict the other. I will only add that if I may judge the minds of others by my own, then Propositions VII and VIII of Book II will be exceedingly difficult to understand, and this for no other reason than that it has pleased the Author (since I have no doubt that they seemed so clear to him) to explain the proofs added to them in such brief and sparing explanations.

He relates, moreover, that he has met in Paris a man called Leibniz, of uncommon learning, well versed in many Sciences, and free from the vulgar prejudices of Theology. He has formed an intimate friendship with him because it happens that like himself he is working at the problem of the continued perfecting of the understanding, than which, indeed, he thinks there is nothing better, and considers nothing more useful. In Morals, he says that he is perfectly disciplined, and

speaks from the mere dictates of reason, without any influence of the feelings. In Physics and especially in Metaphysical studies about God and the soul, he continues, he is very expert. Lastly, he concludes that he is most worthy of having communicated to him your writings, Sir, if consent has been first obtained, since he believes that thus great advantage will come to the Author, as he promises to show more fully if it please you, Sir. But if not, then let it cause no uneasiness lest he may not keep them secret conscientiously according to the promise he gave, as he has not made the slightest mention of them. This same Leibniz thinks very highly of the *Tractatus Theologico-Politicus*, on which subject, if you remember, he once wrote a letter to you, Sir.

I would therefore pray you, Sir, unless there is some special reason against it, not to mind giving this permission, in your generous kindness. If possible, tell me your decision as soon as you can, for as soon as I have received your reply, I shall be able to answer our friend Tschirnhaus, which I am anxious to do on Tuesday evening, unless rather weighty grounds for delay compel you, Sir, to put the matter off.

Mr. Bresser has returned from Cleves, and has sent hither a large quantity of the beer of his country. I advised him to let you, Sir, have half a barrel, which he promised to do with his most friendly greeting.

Lastly, I pray you to forgive the roughness of my style, and the haste of my pen, and to command me to do you some service, so that I may have a real opportunity of proving that I am,

Most distinguished sir,

Your most devoted servant

G. H. SCHULLER.

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LETTER LXXI

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

Many greetings.

As far as I can see from your most recent letter, the issue of the book which you intended for publication is in danger. I cannot refrain from approving your communication, in which you say that you want to elucidate and to simplify the passages in the *Tractatus Theologico-Politicus* which have tormented its readers. Such are, first of all, I should think, those which seem to speak ambiguously about God and Nature; many are of opinion that you have confused these two. Moreover you appear to many to take away the authority and value of miracles, on which alone nearly all Christians are persuaded that the certainty of Divine Revelation can be based. Moreover they say that you conceal your opinion of Jesus Christ, the Redeemer of the world, and the only Mediator for mankind, and of his Incarnation and Atonement; and they want you to open your mind clearly on these three heads. If you do this, and therein please judicious and intelligent Christians, I think your interests will be safe.

These things I, who am your most devoted friend, wanted to tell you in a few words. Farewell.

15 November 1675.

P.S.—Let me know shortly, I pray, that these few lines have been duly delivered to you.

LETTER LXXII

B. D. S.

TO THE VERY LEARNED AND EXPERT MR. G. H. SCHULLER.

[*Reply to Letter LXX.*]

MOST EXPERIENCED SIR, MOST HONOURED FRIEND,

I was much pleased to understand from your letter received to-day that you are well, and that our

friend Tschirnhaus has happily accomplished his journey to France. In the conversations which he had with Huygens about me he bore himself, in my opinion, very prudently. Moreover, I greatly rejoice that he has found such a fortunate opportunity for the end which he had set himself.

I do not see what he finds in Axiom 4, Part I, to contradict Proposition V, Part II. For in this proposition it is asserted that the essence of every idea has God for its cause in so far as He is considered as a thinking thing; whereas, in that axiom, it is asserted that the knowledge or the idea of the effect depends on the knowledge or the idea of the cause. But to confess the truth, I do not sufficiently follow the meaning of your letter on this point, and I believe that either in your letter, or in the original letter, there is an error due to haste in writing. For you write that it is asserted in Proposition V that the ideata are the efficient causes of ideas, whereas this very thing is expressly denied in this proposition. Hence, I now think, arises the whole confusion, and therefore any endeavour to write more fully on this matter would be vain, and I must therefore wait until you explain to me his meaning more clearly, and I know whether the original letter is sufficiently correct.

I think I know the Leibniz of whom he writes, through his letters, but I do not know why he has gone to France, when he was a Councillor of Frankfurt. As far as I could surmise from his letters, he seemed to me a man of liberal mind, and versed in every science. But still I consider it imprudent to entrust my writings to him so soon. I should like to know first what he is doing in France, and to hear the opinion of our friend Tschirnhaus, after he has associated with him longer, and knows his character more intimately. However, greet that friend of ours most dutifully in my name, and if I can be of

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service to him in anything, let him say what he wants, and he will find me most ready to comply with all his wishes.

I congratulate Mr. Bresser, my most honoured friend, on his arrival or return. For the promised beer I am very grateful, and I will repay in whatever way I may.

Lastly, I have not yet attempted to make trial of the process of your kinsman, nor do I believe that I shall be able to apply my mind to the attempt. For the more I consider the thing itself, the more I am persuaded that you have not made gold, but had not sufficiently separated what was latent in the antimony. But more of this on another occasion ; now I am prevented for want of time.

Meanwhile, if I can be of service to you in anything, here I am whom you will always find,

Most distinguished Sir,

Your most friendly and devoted servant

B. DESPINOZA.

THE HAGUE, 18 *November* 1675.

MR. G. H. SCHULLER,

DOCTOR OF MEDICINE,

IN DE KORTSTEEGH IN DE GESTOFEERDE HOET,

T'AMSTERDAM.

LETTER LXXIII

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to Letter LXXI.

MOST NOBLE SIR,

I received your very brief letter to me, dated 15 November, last Saturday. In it you only indicate those passages in the *Tractatus Theologico-Politicus* which have tormented its readers. I, however, had hoped

also to learn from it which were the opinions which seemed to undermine the practice of religious virtue, of which you had previously warned me.

But in order to open to you my mind on the three heads you mention, I say, in the first place, that I hold an opinion about God and Nature very different from that which Modern Christians are wont to defend. For I maintain that God is, as they say, the immanent cause of all things, but not the transeunt cause. Like Paul, and perhaps also like all ancient philosophers, though in another way, I assert that all things live and move in God ; and I would dare to say that I agree also with all the ancient Hebrews as far as it is possible to surmise from their traditions, even if these have become corrupt in many ways. However, those who think that the *Tractatus Theologico-Politicus* rests on this, namely, that God and Nature (by which they mean a certain mass, or corporeal matter) are one and the same, are entirely mistaken.

Then, as regards miracles, I am, on the contrary, persuaded that the certainty of divine revelation can be based only on the wisdom of the doctrine, and not on miracles, that is, on ignorance ; this I have shown at sufficient length in Chapter VI, On Miracles. Here I will only add this, that I regard it as the chief difference between Religion and Superstition, that the latter has ignorance, the former has wisdom, for its foundation. This, I believe, is the reason why Christians are distinguished from the rest of mankind, not by faith, or charity, or the other fruits of the Holy Spirit, but simply by their opinion. For, like all others, they make a stand on miracles alone, that is, on ignorance, which is the source of all wickedness ; and so they turn their faith, even if it is true, into a superstition. I very much doubt whether Kings will ever allow the application of a remedy for this evil.

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Lastly, to open my mind more clearly on the third head, I say, that it is not entirely necessary to salvation to know Christ according to the flesh ; but we must think far otherwise of the eternal son of God, that is, the eternal wisdom of God, which has manifested itself in all things, more especially in the human mind, and most of all in Christ Jesus. For without this wisdom no one can attain to a state of blessedness, inasmuch as it alone teaches what is true and what is false, what is good and what is evil. And since, as I have said, this wisdom was most manifest through Jesus Christ, his disciples, in so far as he had revealed it to them, preached it, and showed that they were able above others to glory in that Spirit of Christ. For the rest, as to the doctrine which certain Churches add to these, namely, that God assumed human nature, I expressly warned them that I do not understand what they say. Indeed, to confess the truth, they seem to me to speak no less absurdly than if some one were to tell me that a circle assumed the nature of a square.

This, I think, is enough to explain what I think on these three heads. Whether this opinion will please the Christians whom you know, you will be able to judge better than I can. Farewell.

[THE HAGUE, *November or December* 1675.]

LETTER LXXIV

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS AND LEARNED MR. B. D. S.

Many greetings.

Reply to the Preceding.

Since you seem to accuse me of excessive brevity, I will clear myself of the charge by excessive lengthiness on this occasion. You expected, as I see, an enumeration of those opinions in your writings which

seemed to your readers to overthrow the practice of religious virtue. I will tell you what it is that causes them most distress. You seem to assert the fatalistic necessity of all things and actions : and they say that if this is admitted and affirmed, then the nerves of all laws, of all virtue and religion, are cut through, and all rewards and punishments are empty. They think that whatever compels, or involves necessity, also excuses ; and so, they think, no one would be inexcusable in the sight of God. For if we are driven by fate, and all things, turned by a strong hand, follow a definite and inevitable course, then they cannot see what place there is for blame or punishments. What wedge can be applied to this knot, it is extremely difficult to say. I should very much like to know and to learn what help you can supply for the problem.

As to your opinion on the three heads I noted, which you were kind enough to disclose to me, these questions arise. First, in what sense do you consider *Miracles and Ignorance* as synonyms and equivalent terms, as you seem to think in your last letter ; since the raising of Lazarus from the dead and the resurrection of Jesus Christ from death, seem to exceed all the power of created Nature, and to belong to the divine power alone ; and it does not argue any culpable ignorance that it necessarily exceeds the limits of an intelligence that is finite, and confined within definite boundaries. Or do you not consider it proper for a created mind and for science to recognize such knowledge and power on the part of the uncreated Mind and supreme Deity that it can understand and do all things, the reason and manner of which cannot be given and explained by us petty men ? We are men, it seems that nothing human should be considered foreign to us.

Then, since you confess that you cannot grasp the thought that God has actually assumed human nature, it

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may be right to ask you in what sense you understand the words of our Gospel, and the passages in the Epistle written to the Hebrews, the former of which says, *the word was made flesh*; and the latter, *the Son of God took not on him the nature of angels, but he took on him the seed of Abraham*. I should think too, that the trend of the whole Gospel implies that the only-begotten Son of God, the Word, (who both was God, and was with God) showed himself in human nature, and by his passion and death paid the ransom for us sinners, the price for our redemption. I should much like to be informed what one ought to say about these and similar things, in order to maintain the truth of the Gospel and of the Christian Religion, to which, I think, you are favourably disposed.

I had intended to write more, but I am interrupted by the visit of friends, to whom I consider it wrong to refuse the duties of courtesy. But even those things which I have put together in this letter will be sufficient, perhaps will even weary you when you consider them as a philosopher. Farewell, then, and believe me ever to be an admirer of your learning and knowledge.

LONDON, 16 *December* 1675.

LETTER LXXV

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to the Preceding.

MOST NOBLE SIR,

At last I see what it was that you asked me not to publish. Since, however, this very thing is the principal basis of all those which are contained in the Treatise I had intended to publish, I want to explain here briefly in what sense I maintain the fatalistic necessity of all things and of all actions.

For in no way do I subject God to fate, but I conceive that everything follows with inevitable necessity from the nature of God, just as all conceive that it follows from the nature of God Himself that He should understand Himself. Certainly no one denies that this follows necessarily from the divine nature, and yet no one conceives that God is compelled by any fate to understand Himself, but that He does so absolutely freely, although necessarily.

Next, this inevitable necessity of things does not do away with either divine or human laws. For moral precepts, whether they do or do not receive the form of law, from God Himself, are nevertheless divine and salutary; and whether we receive the good, which follows from virtue and the love of God, from God as a Judge, or whether it proceeds from the necessity of the Divine nature, it will not, on that account, be either more or less desirable, just as, on the other hand, the evils which follow on wicked actions and feelings will not be less to be feared merely because they follow from them necessarily. Lastly, whether we do what we do necessarily or contingently, we are nevertheless led by hope and fear.

Further, men are inexcusable before God for no other reason than that they are in the power of God Himself as clay in the hand of the potter, who from the same lump makes vessels, some unto honour, others unto dishonour. If you will consider these few words, I do not doubt that you will be able to answer, with very little trouble, all the arguments which are usually advanced against this opinion, as I and many others have already discovered.

I assume that miracles and ignorance are equivalent terms, because those who endeavour to base the existence of God and of Religion on miracles, wish to explain what is obscure by something else which is

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more obscure, and of which they are utterly ignorant, and so they bring forward a new kind of argument, namely, a reduction, not to the impossible, as they say, but to ignorance. However, unless I am mistaken I have explained my opinion about miracles sufficiently in the *Tractatus Theologico-Politicus*. Here I will only add this, that if you will consider these things, namely, that Christ did not appear to the Senate, or to Pilate, or to any one of the unbelievers, but only to the Saints, and that God has neither right nor left, nor is in any one place, but is everywhere according to His essence, and that matter is the same everywhere, and that God does not manifest Himself outside the world in some imaginary space which they invent, and, lastly, that the structure of the human body is only held together within due limits by the pressure of the air, you will easily see that this appearance of Christ is not unlike that with which God appeared to Abraham, when he saw three men whom he invited to eat with him. But you will say that all the Apostles believed absolutely that Christ rose again after death, and that he actually ascended into heaven; this I do not deny. For Abraham himself also believed that God did eat with him, and all the Israelites believed that God descended from heaven to Mount Sinai, surrounded by fire, and spoke directly with them, whereas, however, these and many other things of this kind were apparitions, or revelations, adapted to the comprehension and to the opinions of these men, whereby God wished to reveal to them His meaning. I conclude, therefore, that the resurrection of Christ from the dead was really spiritual, and was revealed only to the faithful in a way adapted to their thought, namely, that Christ had been endowed with eternity, and rose from the dead (here I understand *the dead* in the sense in which Christ did when he said: *Let the dead bury their dead*), and also by his life and death

gave an example of extraordinary holiness, and that he raises his disciples from the dead in so far as they follow the example of his life and death. And it would not be difficult to explain the whole teaching of the Gospel in accordance with this hypothesis.

Nay more, Chapter 15 of the First Epistle to the Corinthians can only be explained on this hypothesis, and only so can Paul's arguments be understood, since, otherwise, when we follow the ordinary hypothesis, they seem unsound, and can easily be refuted, to say nothing about the fact that all that the Jews interpreted according to the flesh the Christians interpreted spiritually.

I recognize with you the weakness of man. But on the other hand let me ask you whether we petty men have so great a knowledge of Nature that we can determine how far its force and power extends, and what is beyond its power? Since no one can presume this without arrogance, therefore one may, without boasting, explain miracles by natural causes as far as possible, and as to those which we can neither explain nor prove, because they are absurd, it will be better to suspend judgment about them, and, as I said, to base Religion solely on the wisdom of its teaching.

Lastly, you believe that the passages in the Gospel of John and in the Epistle to the Hebrews are opposed to what I have said, because you measure the phrases of oriental languages by European modes of speech, and although John wrote his Gospel in Greek, he Hebraized all the same.

However this may be, do you believe that when Scripture says that God manifested Himself as a cloud, or that He dwelt in a Tabernacle, or in a Temple, that God Himself assumed the nature of a cloud, of a Tabernacle or of a Temple? But this is the most that Christ said about himself, namely that he is the temple of God,

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because, undoubtedly, as I said in my previous letter, God manifested Himself most fully in Christ, and John, in order to express this more effectively, said that the word was made flesh. But enough of these things.

[THE HAGUE, *December* 1675.]

LETTER LXXVI

B. D. S.

SENDS GREETINGS TO THE VERY NOBLE YOUNG MAN
ALBERT BURGH.

Reply to Letter LXVII.

What I could scarcely believe when it was related to me by others, I at last understand from your letter; that is, that not only have you become a member of the Roman Church, as you say, but that you are a very keen champion of it and have already learned to curse and rage petulantly against your opponents. I had not intended to reply to your letter, being sure that what you need is time rather than argument, to be restored to yourself, and to your family, to say nothing of other grounds which you once approved when we spoke of Stenonius (in whose footsteps you are now following). But certain friends who with me had formed great hopes for you from your excellent natural talent, earnestly prayed me not to fail in the duty of a friend, and to think of what you recently were rather than of what you now are, and similar things. I have been induced by these arguments to write to you these few words, earnestly begging you to be kind enough to read them with a calm mind.

I will not here recount the vices of Priests and Popes in order to turn you away from them, as the opponents of the Roman Church are wont to do. For they are wont to publish these things from ill-feeling, and to adduce them in order to annoy rather than to in-

struct. Indeed, I will admit that there are found more men of great learning, and of an upright life, in the Roman than in any other Christian Church; for since there are more men who are members of this Church, there will also be found within it more men of every condition. You will, however, be unable to deny, unless perhaps you have lost your memory together with your reason, that in every Church there are many very honest men who worship God with justice and charity; for we have known many men of this kind among the Lutherans, the Reformers, the Mennonites, and the Enthusiasts, and, to say nothing of others, you know of your own ancestors who in the time of the Duke of Alva suffered for the sake of their Religion every kind of torture with both firmness and freedom of mind. Therefore you must allow that holiness of life is not peculiar to the Roman Church, but is common to all. And since we know through this (to speak with the Apostle John, *The First Epistle*, Chapter 4, verse 13) that we dwell in God and God dwells in us, it follows that whatever it is that distinguishes the Roman Church from the others, it is something superfluous, and therefore based merely on superstition. For, as I said with John, justice and charity are the only and the surest sign of the true Catholic faith, and the true fruits of the Holy Spirit, and wherever these are found, there Christ really is, and where they are lacking, there Christ also is not. For by the Spirit of Christ alone can we be led to the love of justice and of charity. If you had been willing duly to ponder these facts within yourself, you would not have been lost, nor would you have caused bitter sorrow to your parents who sorrowfully lament your lot.

But I return to your letter in which you first bewail the fact that I suffer myself to be deceived by the Prince of evil Spirits. But I beg you to be of good cheer, and

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to come to yourself. When you were sane, if I am not mistaken, you used to worship an infinite God, by whose power all things absolutely come into being, and are preserved: but now you dream of a Prince, an enemy of God, who, against the will of God, misleads and deceives most men (for good men are rare), whom God consequently delivers up to this master of vices to be tortured for all eternity. Thus divine justice permits the Devil to deceive men with impunity, but does not permit the men who have been miserably deceived and misled by this same Devil to go unpunished.

These absurdities might still be tolerated if you worshipped a God infinite and eternal, and not one whom Chastillon in the town of Tienen, as it is called by the Dutch, gave with impunity to the horses to eat. And do you, unhappy one, weep for me? And do you call my Philosophy, which you have never seen, a chimaera? O brainless youth, who has bewitched you, so that you believe that you swallow the highest and the eternal, and that you hold it in your intestines?

Yet you seem to want to use your reason, and you ask me, *how I know that my philosophy is the best among all those which have ever been taught in the world, or are taught now, or will be taught in the future?* This, indeed, I can ask you with far better right. For I do not presume that I have found the best Philosophy, but I know that I think the true one. If you ask me how I know this, I shall answer, in the same way that you know that the three angles of a triangle are equal to two right angles. That this is enough no one will deny whose brain is sound, and who does not dream of unclean spirits who inspire us with false ideas which are like true ones: for the truth reveals itself and the false.

But you who presume that you have at last found the best religion, or rather the best men, to whom you have given over your credulity, *how do you know that*

they are the best among all those who have taught other Religions, or are teaching them now, or will teach them in the future? Have you examined all those religions, both ancient and modern, which are taught here and in India and everywhere throughout the world? And even if you have duly examined them how do you know that you have chosen the best? For you can give no reason for your faith. But you will say that you assent to the inward testimony of the Spirit of God, while the others are cheated and misled by the Prince of evil Spirits. But all those outside the Roman Church make the same claims with the same right for their Churches as you do for yours.

As to what you add about the common consent of myriads of men, and of the uninterrupted succession of the Church, etc., this is the same old song of the Pharisees. For these also, with no less confidence than the adherents of the Roman Church, produce their myriads of witnesses, who relate what they have heard about, with as much pertinacity as do the witnesses of the Romans, just as if they themselves had experienced it. They trace back their lineage to Adam. They boast with equal arrogance that their Church maintains its growth, stability, and solidity to this very day, in spite of the hostility of the Heathen and the Christians. Most of all do they take their stand on their antiquity. They declare with one voice that they have received their traditions from God Himself, and that they alone preserve the written and unwritten word of God. No one can deny that all heresies have left them, but that they have remained constant for some thousands of years, without any imperial compulsion, but through the mere power of superstition. The miracles which they relate are 'enough to weary a thousand gossips. But what they chiefly pride themselves on is that they number far more martyrs than any other nation and daily increase the number of those who with

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extraordinary constancy of mind have suffered for the faith which they profess. And this is not untrue. I myself know, among others, of a certain Judah, whom they call the Faithful, who in the midst of the flames, when he was believed to be dead already, began to sing the hymn which begins *To thee, O God, I commit my soul*, and died in the middle of the hymn.

The order of the Roman Church, which you so greatly praise, I confess, is politic and lucrative to many. I should think that there was none more suited to deceive the people and to constrain the minds of men, were there not the order of the Mahomedan Church which far surpasses it. For from the time that this superstition began there have arisen no schisms in their Church.

If, therefore, you calculate correctly, you will see that only what you note in the third place, is in favour of the Christians, namely, that unlearned and common men were able to convert almost the whole world to the faith of Christ. But this argument militates not only for the Roman Church, but for all who acknowledge the name of Christ.

But suppose that all the arguments which you adduce, are in favour of the Roman Church alone. Do you think that you can thereby mathematically prove the authority of the Church? Since this is far from being the case, why then do you want me to believe that my proofs are inspired by the Prince of evil Spirits, but yours by God? Especially so, as I see and your letter clearly shows that you have become a slave of this Church, under the influence not so much of the love of God as of the fear of hell, which is the sole cause of superstition. Is this your humility, to put no faith in yourself, but only in others, who are condemned by very many? Do you regard it as arrogance and pride because I use my reason, and acquiesce in that true Word

of God which is in the mind and can never be depraved or corrupted? Away with this deadly superstition, acknowledge the reason which God has given you, and cultivate it, if you would not be numbered among the brutes. Cease, I say, to call absurd errors mysteries, and do not shamefully confuse those things which are unknown to us, or as yet undiscovered, with those which are shown to be absurd, as are the horrible secrets of this Church, which, the more they oppose right reason, the more you believe they transcend the understanding.

For the rest, the basis of the *Tractatus Theologico-Politicus*, namely, that Scripture must only be explained through Scripture, which you so boldly and without any reason proclaim to be false, is not merely assumed, but apodictically proved to be true or well-established, chiefly in Chapter 7, where the opinions of opponents are also refuted. Add to this what is proved at the end of chapter 15.

If you will consider these carefully, and also examine the Histories of the Church (of which I see you are most ignorant), in order to see how false are many of the Pontifical traditions, and by what fate and with what arts the Roman Pontiff, six hundred years after the birth of Christ, obtained sovereignty over the Church, I doubt not that you will at last come to your senses. That this may be so, I wish you from my heart. Farewell, etc.

[THE HAGUE, December 1675.]

LETTER LXXVII

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. B. D. S.

εὖ πράττειν.

Reply to Letter LXXV.

You hit the mark exactly when you perceive the reason why I do not wish the fatalistic necessity of

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all things to be published, that is, lest the practice of virtue be hindered thereby, and rewards and punishments become of no account. The suggestions on this subject contained in your last letter do not yet seem to settle this matter, or to calm the human mind. For if we human beings are in all our actions, moral as well as natural, as much in the power of God as clay in the hand of the potter, with what right, I pray, can any one of us be blamed for acting in this or that way, when it was absolutely impossible for him to act otherwise? Shall we not all to a man be able to retort to God: Your inflexible fate, and your irresistible power have compelled us to act thus, and we could not act otherwise; why, therefore, and with what right will you hand us over to such dire punishments, which we could in no way avoid, seeing that you do and direct everything through supreme necessity in accordance with your will and pleasure? When you say, men are inexcusable before God for no other reason than because they are in the power of God, I should certainly reverse that argument and say, apparently with more reason, that men are so evidently excusable because they are in the power of God. For it is easy for everybody to plead: Your power, O God, is inevitable; therefore it appears that I must deservedly be excused that I did not act otherwise.

Moreover in that you still take miracles and ignorance to be equivalent terms, you seem to confine the power of God and the knowledge of men, even of the wisest men, within the same limits, as if God were unable to do or to produce anything for which men cannot render a reason, if they exert the whole strength of their mind. Further, the history of Christ's Passion, Death, Burial and Resurrection seems to be described in such vivid and natural colours that I am even emboldened to appeal to your conscience whether you believe that it should

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be taken allegorically rather than literally, if you are really persuaded of the truth of the History? The circumstances which are so lucidly recorded about it by the Evangelists seem to urge profoundly that the story must be taken literally. This much I wanted to say in a few words in reply to that argument. This I earnestly beg you to forgive, and to answer with your usual candour and friendliness.

Mr. Boyle greets you dutifully. What the Royal Society is now doing I will explain on another occasion. Farewell and continue to love me.

HENRY OLDENBURG.

LONDON, 14 *January* 1676.

LETTER LXXVIII

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. HENRY OLDENBURG.

Reply to the Preceding.

MOST NOBLE SIR,

What I said in my previous letter, that we are inexcusable because we are in the power of God as clay in the hand of the potter, I wanted to be understood in this sense, namely, that no one can blame God because He has given him an infirm nature or an impotent mind. For it would be just as absurd for a circle to complain that God has not given it the properties of a sphere, or a child who is tortured by a stone, that He has not given him a healthy body, as for a weak-minded man to complain that God has denied him strength and the true knowledge and love of God, and that He has given him a nature so weak that he cannot restrain or moderate his desires. For to the nature of each thing there belongs no more than necessarily follows from its given cause. But that it does not belong to the nature of each man to be strong-

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mind and that it is no more in our power to have a sound body than a sound Mind, no-one can deny, unless he wishes to contradict both experience and reason. But you will insist that if men sin from the necessity of their nature, they are excusable: but you do not explain what you want to conclude from this, whether, namely, you want to conclude that God is unable to be angry with them or that they are worthy of blessedness, that is, of the knowledge and love of God. Now if you mean the former, I fully admit that God is not angry, and that all things come to pass according to His decision; but I deny that they ought therefore all to be blessed: for men can be excusable and nevertheless lack blessedness, and be tormented in many ways. For a horse is excusable for being a horse and not a man; nevertheless it must be a horse and not a man. He who goes mad from the bite of a dog is, indeed, to be excused, and yet is rightly suffocated, and, lastly, he who is unable to control his desires, and to restrain them through fear of the laws, although he must be excused for his weakness, is nevertheless unable to enjoy peace of mind, and the knowledge and love of God, but necessarily perishes.

I do not think it necessary to warn you here that when Scripture says that God is angry with sinners, and that He is a judge who takes cognizance of the actions of men, judges, and passes sentence, it is speaking in human fashion, and in accordance with the received opinions of the people, since its intention is not to teach Philosophy, nor to make men learned, but obedient.

Again, I do not see how, because I assume that miracles and ignorance are equivalent, I appear to confine the power of God and the knowledge of men within the same limits.

Further, I accept Christ's passion, death and burial literally, as you do, but his resurrection, allegorically.

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I do indeed acknowledge that this is also related by the Evangelists with so many circumstantial details that we cannot deny that the Evangelists themselves believed that Christ's body rose again, and ascended into heaven to sit at the right hand of God ; and that he could also have been seen even by unbelievers if they had also been present in the places in which Christ himself appeared to his disciples ; in this, however, without harm to the teaching of the gospel, they could have been deceived, as happened also to other Prophets. I gave examples of this in my previous letter. But Paul, to whom also Christ afterwards appeared, glories that he knew Christ not according to the flesh but according to the Spirit.

I thank you very much for the Catalogue of the books of the very noble Mr. Boyle. Lastly, I wait to hear from you, when you have an opportunity, about the present proceedings of the Royal Society.

Farewell, most honoured sir, and believe me yours in all love and devotion.

[THE HAGUE, 7 *February* 1676.]

LETTER LXXIX

HENRY OLDENBURG

TO THE VERY ILLUSTRIOUS MR. BENEDICT DE SPINOSA.

Many greetings.

[*Reply to the Preceding.*]

In your last letter, written to me on the 7th of February, there remain some things which seem to deserve closer examination. You say that a man cannot complain because God has denied him a true knowledge of Himself, or sufficient strength to avoid sins, since there belongs to the nature of anything no more than necessarily follows from its essence. But I say that

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inasmuch as God, the creator of men, formed them after His own image, which seems to include in its conception wisdom and goodness and power, it seems by all means to follow that it is more within the power of man to have a sound Mind than a sound body, since the physical health of the body depends on mechanical principles, but soundness of mind, on choice and purpose. You add that men may be excusable and yet be tormented in many ways. This seems hard at first sight ; and what you add in place of proof, that a dog who is mad from a bite is indeed excusable, but is nevertheless rightly killed, does not seem to settle the matter : for the slaughter of such a dog would argue cruelty if it were not necessary for the protection of dogs, or other animals, and even men, from a bite of this kind which infects with madness. But if God had implanted a sound mind in men as He is able to do, there would be no contagion of vices to be feared. And certainly it seems exceedingly cruel that God should give men over to eternal torments, or to torments which are terrible at least for a time, on account of sins which could in no way be avoided by them. Moreover, the trend of the whole of Holy Scripture seems to suppose and to imply that man can refrain from sins : for it is full of curses and promises, of proclamations of rewards and of penalties, which all seem to militate against the necessity of sinning, and to imply the possibility of avoiding punishments. If this is denied then the human mind will have to be said to act no less mechanically than the human body.

Further, your continued assumption that Miracles and Ignorance are equivalent seems to rest on this basis, that a creature can and must have an insight into the infinite power and wisdom of the Creator : I am still very strongly convinced that it is certainly otherwise.

Lastly, your assertion that Christ's passion, death

LETTER LXXIX — FROM OLDENBURG 1676

and burial must be taken literally, but his Resurrection allegorically, is not supported by you, it appears to me, by any argument. In the Gospels, Christ's resurrection seems to be related as literally as the other events. And the whole Christian Religion, and its truth, rest on this article of the Resurrection, and if it is taken away, the mission of Christ and his heavenly Teaching collapse. It cannot be unknown to you how much Christ, when he had been raised from the dead, endeavoured to convince his disciples of the truth of the Resurrection, properly so called. To want to turn all these things into allegories is the same as if some-one tried hard to overthrow the whole truth of the Gospel History.

These few points I again wished to submit, in accordance with my liberty of philosophizing, and I earnestly beg you to take them in good part.

LONDON, 11 *February* 1676.

I will deal very fully with the present studies and investigations of the Royal Society if God grant life and health.

LETTER LXXX

EHRENFRIED WALTER VON TSCHIRNHAUS

TO THE VERY ACUTE AND LEARNED PHILOSOPHER B. D. S.

MOST ILLUSTRIOUS SIR,

First I find it exceedingly difficult to conceive how the existence of bodies having motion and figure can be proved a priori, since there is nothing of this kind in Extension when we consider it absolutely. Secondly, I should like to be informed by you in what sense is to be understood what you state in your letter on the Infinite in these words: *But they do not conclude that such things exceed every number because of the multitude*

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of their parts. For in fact all Mathematicians seem to me always to show with regard to such infinities that the number of the parts is so great as to exceed any assignable number, and in the example about the two circles, which is adduced there, you do not seem to prove this point, although you had undertaken to do so. For there you merely show that they do not infer this from the excessive greatness of the intervening space, and *because we do not know its maximum and minimum*; but you do not show, as you wanted to do, that they do not infer it from the multitude of the parts.

Further, I gathered from Mr. Leibniz, that the tutor of the Dauphin of France, Huet by name, a man of extraordinary learning, is going to write about the truth of human Religion, and to refute your *Tractatus Theologico-Politicus*. Farewell.

2 May 1676.

LETTER LXXXI

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. EHRENFRIED WALTER VON TSCHIRNHAUS.

Reply to the Preceding.

MOST NOBLE SIR,

What I said in my letter about the Infinite, that they do not infer the infinity of the parts from the multitude of parts, is clear from the fact that, if it were inferred from their multitude, we should not be able to conceive a greater multitude of parts, but their multitude ought to be greater than any given one, which is untrue: for in the whole space between two circles having different centres we conceive twice as many parts as in half that space, and yet the number of the parts, of the half as well as of the whole of the space, exceeds every assignable number.

LETTER LXXXI—TO TSCHIRNHAUS 1676

Next, from extension as Descartes conceives it, that is, as a quiescent mass, it is not only, as you say, difficult to prove the existence of bodies, but absolutely impossible. For matter at rest will continue at rest as much as possible, and will not be set in motion except by some stronger external cause. For this reason I did not hesitate to say once that Descartes' principles of natural things are useless, not to say absurd.

THE HAGUE, 5 *May* 1676.

LETTER LXXXII

EHRENFRIED WALTER VON TSCHIRNHAUS

TO THE VERY ACUTE AND LEARNED PHILOSOPHER B. D. S.

MOST LEARNED SIR,

I should like you to do me the favour of showing me how, according to your thoughts, the variety of things can be deduced a priori from the conception of Extension. For you remember the opinion of Descartes whereby he maintains that he can deduce this variety from Extension in no other way than by supposing that this was the effect produced in Extension by motion which was started by God. In my opinion, therefore, he does not deduce the existence of bodies from inert matter, unless perhaps you disregard the hypothesis of God as the mover; for you have not shown how that must necessarily follow a priori from the essence of God; a thing the demonstration of which Descartes believed to be beyond human comprehension. Therefore, I ask you about this subject, well knowing that you hold other views, unless perhaps there is some special reason why you did not hitherto want to make it public. That this may be so, I do not doubt, or it would not have been necessary to indicate such a thing obscurely. But you may certainly be sure that, whether

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you tell me something openly or whether you conceal it, my feeling for you will remain unchanged.

The reasons, however, why I should especially desire this, are these. In Mathematics I have always observed that from anything considered in itself, that is, from the definition of anything, we are able to deduce at least one property, but that if we desire more properties, then we must relate the thing defined to other things; then, if at all, from the combination of the definitions of these things new properties result. For instance, if I consider only the circumference of a circle, I shall not be able to infer anything except that it is alike at all points, or uniform, in which property it differs essentially from all other curves. But I shall never be able to deduce any other properties. If, however, I relate it to other things, say, to the radii drawn from the centre, or to two or also more intersecting lines, then I shall in this way be able to deduce some more properties. This seems to a certain extent to oppose Proposition XVI of the *Ethics*, which is almost the most important one in Book I of your Treatise. In this it is assumed as known that several properties can be deduced from the given definition of a thing. This seems to me impossible, unless we relate the defined thing to others. As a consequence of this I cannot see how from an Attribute, considered by itself, for instance from infinite Extension, there can arise a variety of bodies. If you think that this also cannot be concluded from a single attribute considered by itself, but only from all taken together, I should like to learn this from you, also how this should be conceived.

Farewell, etc.

PARIS, 23 June 1676.

LETTER LXXXIII — TO TSCHIRNHAUS 1676

LETTER LXXXIII

B. D. S.

TO THE VERY NOBLE AND LEARNED
MR. EHRENFRIED WALTER VON TSCHIRNHAUS.

Reply to the Preceding.

MOST NOBLE SIR,

You ask whether the variety of things can be proved a priori from the conception of Extension alone. I believe I have already shown sufficiently clearly that this is impossible, and that therefore matter is badly defined by Descartes as Extension, but that it must necessarily be defined by an attribute which expresses eternal and infinite essence. But perhaps, if life lasts, I will discuss this question with you some other time more clearly. For so far I have not been able to write anything about these things in proper order.

As to what you say in addition that from the definition of each thing considered in itself we can deduce one property only, this may be true in the case of the most simple things, or in the case of things of reason (under which I also include figures) but not in the case of real things. For from the mere fact that I define God as a Being to whose essence belongs existence I infer several of His properties, namely, that He exists necessarily, that He is unique, immutable, infinite, etc. And in this way I might adduce several other examples which I omit at present.

Lastly, I pray you to find out whether Mr. Huet's Treatise (namely, the one against the *Tractatus Theologico-Politicus*), of which you wrote before, has already been published, and whether you will be able to send me a copy, and also whether you already know what it is that has recently been discovered about Refraction.

And so, farewell, most Noble Sir, and continue to love, etc.

Your B. D. S.

THE HAGUE, 15 *July* 1676.

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LETTER LXXXIV

B. D. S.

TO A FRIEND.

On the Political Treatise.

DEAR FRIEND,

Your welcome letter was delivered to me yesterday. I thank you from my heart for the great trouble which you take on my behalf. I would not miss this opportunity, etc., if I were not busy with something which I consider more useful, and which, as I believe, will please you more, namely, in composing a *Political Treatise*, which, at your instigation, I began some time ago. Of this Treatise six chapters are already finished. The *first* contains as it were an Introduction to the work itself; the *second* treats of Natural Right; the *third* of the Right of the Supreme Powers; the *fourth*, of what Political Business is within the control of the supreme Powers; the *fifth*, of what is the ultimate and highest end which a Society can consider; and the *sixth*, of the way in which a Monarchical Government ought to be constituted, so as not to sink into a Tyranny. At present I am doing the *seventh* chapter, in which I prove methodically all those parts of the preceding sixth chapter which concern the constitution of a well-ordered Monarchy. Then I shall pass on to *Aristocracy and Popular Government*, and finally to Laws and other Special Questions concerning Politics. And so, farewell, etc.

[THE HAGUE, 1676.]

THE END.

ANNOTATIONS



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LETTER I

P. 73. This letter is only known from the *Posthumous Works** (Latin and Dutch editions, 1677), the original letter, written in Latin, having been lost.

Oldenburg's letter is a remarkable tribute to the personality of Spinoza. At the time of their meeting Spinoza was not yet twenty-nine, Oldenburg was about forty-six, yet the attitude of the older and more influential man is almost that of a disciple to a master. His attitude, it is true, changed considerably when, after a long lapse of time, the early impression faded, and old prejudices re-asserted themselves in an environment in which such prejudices were too habitual, and too deeply rooted, to be even remotely suspected of being prejudices. See *Introduction*, § 3.

P. 73, l. 6. *Rhynsburg* is a little village about six or seven miles north-west of Leyden. It is situated on the banks of the old Rhine, and is within easy walking distance of Endgeest, where Descartes had stayed a number of years. Its modest cottages, narrow lanes, quiet waterways, and quaint medieval church still give Rhynsburg an old-world appearance such as it had when Oldenburg visited Spinoza there. The cottage in which the two met is still in existence. It stands in what is now known as Spinoza Lane, and it is preserved as a Spinoza Museum under the name of *Spinozahuis*. The spirit of its early owner or occupier may be gathered from an inscription on a stone which was once in the cottage wall, and which is still preserved. The inscrip-

* In these Annotations the expression *Posthumous Works*, without any qualification, refers to *both* the Latin and the Dutch editions; *Opera Posthuma* denotes the Latin edition only; *Nagelate Schriften* denotes the Dutch edition only.

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tion is taken from Kamphuyzen's *May Morning*, and may be rendered as follows :

“ Alas ! if all men were but wise,
And would be good as well,
The Earth would be a Paradise,
Where now 'tis mostly Hell.”

The spirit expressed is that of the Collegiants, a sect of Quaker-like dissenters who made Rhynsburg their headquarters, and who were consequently also known by the name of Rhynsburgers. Spinoza had friends among them, and in 1660 he left Amsterdam for Rhynsburg, where he stayed until 1663. These were fruitful years, in which he wrote the later parts of the *Short Treatise on God, Man and his Well-being*, the unfinished *Treatise on the Improvement of the Understanding*, part of his geometrical version of Descartes' *Principles*, and the appended *Metaphysical Thoughts*, and possibly the first part of his *Ethics*.

P. 74, l. 9. *Certain Physiological Essays*, by Robert Boyle, was published in 1661. A Latin version was published in London in 1665 and in Amsterdam in 1667. Spinoza must have received from Oldenburg an advance copy of the Latin version of some of the essays. The essays are not *physiological* in the present sense of the term, but *physical*—both terms literally mean “ concerning Nature.”

LETTER II

P. 74. This letter is contained in the *Posthumous Works*, but is not extant in any other form. To judge from the dates of the preceding letter and of the next letter, it must have been written about the middle of September 1661.

A N N O T A T I O N S

P. 76, l. 6. "Every substance must be infinite or supremely perfect of its kind." This definition does not yet distinguish between *substance* and *attribute*. According to Spinoza's subsequent use of these terms, this definition really defines *attribute*, and not *substance*, which is *absolutely* infinite or perfect, not only of its kind.

P. 76, l. 14. "Proofs after the manner of Geometry." The geometric exposition of the fundamental ideas of his philosophy which Spinoza enclosed in this letter has been lost. But it can be reconstructed with the help of this and the two following letters, Appendix I of the *Short Treatise*, and the *Ethics*. The editors of the *Posthumous Works* identified the contents of the lost document with the contents of the beginning of the *Ethics* up to Proposition IV. But the lost outline must have been different in some ways both from the geometrical first Appendix to the *Short Treatise* (pp. 153-156 of my translation) and from the opening passages of the *Ethics*. The lost sketch may be reconstructed approximately as follows :

Definition 1.—God is a Being consisting of infinite attributes, of which each is infinite, or supremely perfect of its kind.

[See p. 75, l. 21, *Short Treatise*, Appendix I, corollary to Proposition IV, and *Ethics*, Part I, Definition VI.]

Definition 2.—By Attribute or Substance I understand that which is in itself, and is conceived through itself and in itself, so that the conception of it does not involve the conception of another thing.

[See p. 75, l. 25, *Ethics*, Part I, Definition III.]

Definition 3.—By Modification or Accident I mean that which is in something else, and is conceived through that in which it is.

[See p. 82, l. 29, *Ethics*, Part I, Definition V.]

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Axiom 1.—Substance is by nature prior to its *accidents*.

[See p. 82, l. 32, *Short Treatise*, Appendix I, Axiom 1, and *Ethics*, Part I, Proposition I.]

Axiom 2.—Besides Substances and *Accidents* there exists nothing in reality, or outside the understanding.

[See p. 79, l. 13, p. 82, l. 35, *Ethics*, Part I, Proposition IV, Proof.]

Axiom 3.—Things which have different attributes have nothing in common between them.

[See p. 79, l. 15, p. 83, l. 4, *Short Treatise*, Appendix I, Axiom 4, and *Ethics*, Part I, Proposition II.]

Axiom 4.—Things which have nothing in common between them cannot be one the cause of the other.

[See p. 79, l. 21, p. 83, l. 8, *Short Treatise*, Appendix I, Axiom 5, and *Ethics*, Part I, Proposition III.]

Proposition 1.—In Nature there cannot be two substances having the same attribute.

[See p. 76, l. 2, p. 79, l. 35, *Short Treatise*, Appendix I, Proposition I, and *Ethics*, Part I, Proposition V.]

Proposition 2.—A Substance cannot be produced, not even by another substance, but existence pertains to the essence of a substance.

[See p. 76, l. 4, p. 80, l. 3, *Short Treatise*, Appendix I, Propositions II and IV, and *Ethics*, Part I, Propositions VI and VII.]

Proposition 3.—Every Substance is by nature infinite or supremely perfect of its kind.

[See p. 76, l. 5, also the *Short Treatise*, Appendix I, Proposition III, and *Ethics*, Part I, Proposition VIII.]

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Scholium.—The existence of an Attribute or Substance follows from its definition. For every definition, or clear and distinct idea, is true.

[See p. 81, l. 23, and l. 33.]

P. 77, l. 1. “Bacon . . . supposes that . . . the human intellect is fallible.” The reference is to *Novum Organum*, I, xli: “The Idols of the Tribe have their foundation in human nature itself, and in the tribe or race of men. For it is a false assertion that this sense of man is the measure of things. On the contrary, all perceptions, as well of the sense as of the mind, are according to the measure of the individual, and not according to the measure of the universe. And the human understanding is like a false mirror, which, receiving rays irregularly, distorts and discolours the nature of things by mingling its own nature with it.”

P. 77 l. 8. “Prone to abstractions.” *Novum Organum*, I, li: “The human understanding is of its own nature prone to abstractions, and gives a substance and reality to things which are fleeting” (Ellis and Spedding’s more picturesque than accurate translation). The *Opera Posthuma* gives Bacon’s term *fluxa*, but Dr. Gebhardt has adopted *fluida* from the Dutch edition. Why?

P. 77, l. 10. “Thirdly. . . .” *Novum Organum*, I, xlviii: “The human understanding is unquiet; it cannot stop or rest, and still presses onward, but in vain.”

P. 77, l. 15. “Aphorism 49.” *Novum Organum*, I, xlix: “The human understanding is no dry light, but receives an infusion from the will and affections, whence proceed sciences which may be called ‘sciences as one would.’”

P. 77, l. 29. “A thing of reason” (*ens rationis*) is an aid to thought. In the system of Spinoza it appears

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to occupy a position between professed fictions or fancies, on the one hand, and adequate ideas, on the other. Adequate ideas are apprehensions of the very essence of reality ; fictitious ideas or mere fancies have no reference to reality ; “ things of reason,” or aids to thought, may be described as devices of the human mind for apprehending reality, but not as it really is in itself. It may be said that the conception of “ things of reason ” contains the gist of Kant’s critical philosophy on its epistemological side. What Kant did, in effect, was to reduce *all* human ideas to such aids to thought, and to deny any direct apprehension of ultimate reality, such as Spinoza claimed for “adequate ideas.” In Vaihinger’s Philosophy of “As If” all human ideas are reduced to fictitious ideas. In the passage with which we are immediately concerned Spinoza contends that the popular conception of Will and its free agency is the result of the hypostasis of a general idea (or “ thing of reason ”) obtained by abstraction from particular acts of volition.

LETTER III

P. 78. This letter is only known from the *Posthumous Works*, the original letter, written in Latin, having been lost.

Oldenburg’s difficulties arose from his utter failure to understand Spinoza’s conception of Substance and Attribute, and his persistence in identifying *substance* with any *thing* (what Spinoza calls a *mode*), and *attribute* with any *quality*. His objection to inferring the existence of a thing from the definition of it was true but irrelevant, because Spinoza did not speak of *things* in the ordinary sense, but of the unconditioned Ground of all conditioned reality. Spinoza’s main point was that the existence of finite, dependent or conditioned

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things implies the reality of an Absolute or Unconditioned Ground or (immanent) Cause. And by Attributes Spinoza meant, of course, only such ultimate infinite qualities, or rather Aspects of Substance, as Extension and Thought, not any kind of finite quality.

P. 79, l. 3. "What thought is . . ." Oldenburg's allusion, in the second question, to the possibility of thought being a corporeal activity may have reference to the views of his contemporary Hobbes or to the older views of the Epicureans and of the Stoics.

P. 79, l. 8. "The light of Nature" (*lux naturae*, also *lumen naturae* or *lumen naturale*) means a natural power by which truths are apprehended independently of supernatural revelations or even of ordinary experience. The term occurs already in the writings of Cicero and of St. Augustine, as well as in those of Thomas Aquinas (1225-1274). According to Descartes all ideas clearly and distinctly apprehended by "the light of nature" are certain and true.

P. 80, l. 22. "Our Philosophical Society," that is, what was soon known as the Royal Society. See *Introduction*, § 4.

P. 80, l. 25. "History of the Mechanical Arts." *History* here means "a study or a descriptive account." This was its usual meaning then and long before that time (e.g. Aristotle's *History of Animals*). In the name *Natural History* the word still retains its older meaning. The restriction of the name *History* to a *chronological* account is quite modern.

P. 80, l. 30. "Inexplicable forms and occult qualities." The distinction between the *form* or configuration of a thing and its *matter* is sufficiently familiar. Thus the same form of medal may be struck in different materials, such as bronze, silver, or gold, and vice versa. The distinction is also applied metaphorically to literature, thought, conduct, etc. The contemptuous use of

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the term *formalism* shows the tendency to condemn the exaggerated estimate of mere form at the cost of content, as when Pharisees, ancient or modern, stress the importance of "good form" in conduct without sufficient regard to its substantial motive and results. In the history of thought, however, there has always been a tendency to esteem the "form" of things very highly. This tendency appeared first in Pythagoras (sixth century B.C.), who proclaimed number to be the essence of things. Number at that time was equivalent to geometrical form, because numbers were usually expressed then as dots arranged in geometrical patterns, as they still are in the case of cards and dominoes. The conception was further developed by Plato in his doctrine of Ideas. But the distinction between form and matter became most explicit in Aristotle, according to whom matter is the undifferentiated primal matrix out of which things emerge by acquiring various forms, which thus constitute the essential character of things. The Aristotelian conception dominated the Middle Ages, and survived into modern times in one form or another. Even the anti-Aristotelian Francis Bacon insisted that the problem and aim of induction is to discover the *forms* of natural phenomena. Among the less scientific alchemists "forms" came to be treated like magic powers or spirits, with the help of which everything was at once explained and obscured. Similarly with occult qualities—that is, qualities which were supposed to be "hidden" from our senses (as distinguished from "sensible" qualities, or those which can be apprehended by our senses). They were employed liberally to explain and to mystify. It was Boyle's greatest service to the revival of science to war incessantly against this kind of pseudo-explanation, in his *Sceptical Chymist*, *Origine of Formes and Qualities*, etc.

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LETTER IV

P. 81. This letter is only known from the *Posthumous Works*. The original letter, written in Latin, cannot be traced. To judge from the dates of Letters III and V, this one must have been written in October 1661.

P. 82, l. 21. "Common Notions" (*Notiones communes*) is here used as the equivalent of what Oldenburg (Letter III) called "indemonstrable Principles," that is, ultimate assumptions or axioms. It was the Stoics who first brought into vogue the idea of common notions (*κοινὰ ἔννοια*, *communes notiones*). These were held to be ideas implanted in all human beings by the Universal Spirit, and therefore true. The argument from *consensus gentium* was based on this thought. In the seventeenth century the term was extensively used by Herbert of Cherbury (1585-1648) and by Descartes, among others. In his *De Veritate*, Herbert of Cherbury elaborated a theory of knowledge in which "common notions" (*notitiae communes*) occupied an important place as ideas which were innate, indisputable, and of divine origin. Descartes at first applied the term to such ultimate ideas as those of Existence, Duration, Equality (hence also the names *primae notiones* or *notions primitives*), but eventually identified them with "axioms" or "eternal truths" (such, e.g., as "things equal to the same thing are equal to one another"), on the ground presumably that they are conveyed to us along with "common notions" in the other sense of the term, namely, ultimate ideas like Equality, etc. Spinoza eventually used the term "adequate ideas" instead of the term "common notions," which he also employed sometimes. It is worth noting that Plato seems to have applied the term "adequate" (*τι ἱκανόν*) to an assumption

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or postulate (*ὑπόθεσις*), which was admitted by, or common to, all the parties to a discussion. So that Spinoza had to some extent an historical precedent for substituting "adequate" for "common" notions.

P. 82, l. 25. "Accident" (*accidens*) was commonly used in Scholastic philosophy for any kind of quality, inasmuch as a quality is dependent upon a substance which it qualifies. "Mode" (*modus*) was used in the same sense more or less. And even Descartes used the two terms as synonyms (*modus sive accidens*). In the passage before us Spinoza also uses *accident* and *modification* (= *mode*) as equivalent terms. Both denote some modification (or state, or *affectio*) of Substance, or of an Attribute (in Spinoza's sense). In Letters X, XII and XVII we meet again with these terms used in the same way. In his later writings, however, Spinoza dropped the term *accidens* almost entirely in favour of the terms *modus*, *modificatio* or *affectio*. Speaking generally the use of *accident* (in contrast to *Attribute* or *Substance*) corresponded to the modern philosophical use of *adjectival* to designate what is inherent in or dependent upon something else, as opposed to the *substantial*, or self-dependent, or self-existing.

P. 83, l. 19. "Men are not created but begotten." Spinoza wants to emphasize the difference between creation out of nothing and the mere transformation of already existing material.

P. 83, l. 24. "The second Proposition," etc. See Annotations to Letter II. Oldenburg's misconception of what Spinoza meant by *substance* naturally misled him to suppose that Spinoza was setting up as many gods as there were *things*, whereas Spinoza's real aim was to prove that there could only be *one* Substance, or self-existing Ground of Reality.

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LETTER V

P. 83. This letter also is only known from the *Posthumous Works*, the original letter, written in Latin, having been lost.

P. 83, l. 32. "The little book," that is, an advance copy of the Latin translation of parts of *Certain Physiological Essays* by Boyle.

P. 84, l. 13. "In what manner things began to be," etc. Oldenburg cannot get away from the story of the Creation. For Spinoza, of course, things did not "begin to be," the universe or substance being eternal.

LETTER VI

P. 84. The original letter, written in Latin, is in the possession of the Royal Society, London. A facsimile of it is given in W. Meyer's edition of the extant autograph letters of Spinoza (1903). Spinoza's draft of the letter must have been used for the *Posthumous Works*, and the two texts have a number of variants of no great importance. The most important difference between the two texts consists in the omission from the text of the *Posthumous Works* of the last two paragraphs of the original letter.

The letter is not dated. But it must have been written early in 1662. This appears from Letter VII, in which Oldenburg, writing in July 1662, acknowledges the receipt of the present letter many weeks ago.

P. 85, l. 11. "On Nitre." The ultimate aim and general significance of Boyle's experiments have already been described briefly in the *Introduction*, § 4. But for the benefit of those readers who are interested in the

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history of science an account is added here of the nature and aim of his experiments with nitre (or saltpetre) as described in *Certain Physiological Essays* (edition 1661, pp. 107-135), and a few comments are interspersed.

Among the chemists and alchemists before, and in the time of, Boyle, it was commonly believed that complex natural objects consisted of certain elements or "principles" (see Annotations to Letter XIV), together with a certain "Form," which was different for each class of objects (each kind of complex substance having its own "substantial form"), and which gave to each class its characteristic nature. This "form" (the early history of which is sketched in the Annotations to Letter III) was frequently conceived after the analogy of a soul, or a spirit, which held together the elements and qualities in one complex whole (or "concrete," as it was commonly called), helped to maintain it and its character, and what not. Boyle tried to show that this kind of mysterious, wonder-working "form" was a gratuitous, useless assumption, and that the only kind of form it was legitimate to accept was that consisting in the various groupings of the more elementary components which go to make up a complex whole or "concrete." In support of his contention he tried to show that even artificial compounds (such as glass or vitriol), which presumably were not endowed with "substantial forms" by Nature, behaved in the same sort of way as, in the case of natural "concretes," was wont to be explained by reference to the mysterious "substantial forms"; and that, moreover, a natural "concrete," like nitre, could be broken up into more elementary components, so that its alleged "substantial form" was destroyed, and yet, when reintegrated artificially, the product was the same kind of nitre as before. All this, according to Boyle, tended to show that what really mattered was the way in which the more

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elementary particles of matter were grouped together. This was the real "form" of things; the other more mysterious "substantial forms" were only a device for enabling ignorance to masquerade as knowledge.

If Boyle could disprove (as he thought he could) the need of assuming the reality of more or less supernatural "forms" he would obviously be promoting the cause of a strictly naturalistic explanation of chemical phenomena, such as the mechanical, atomistic or "corpuscularian" philosophy aimed at. But Boyle went even further. He tried to show that the secondary qualities of things (taste, smell, temperature, etc.) were the results of their primary qualities, and could be derived from these, or explained by reference to them. This was a more positive contribution to the "mechanical philosophy." And both these points must be borne in mind when reading Boyle's accounts of his experiments. In both these respects Boyle may be said to have helped the cause of the Atomic Theory, and much of what he has said may justify the commonly accepted view that that was what he was really aiming at by these experiments. But strictly speaking that view goes a little too far. It would be more accurate to say that the experiments were primarily and immediately directed to establish the two above-mentioned points, namely, the elimination of the supernatural from Chemistry, and the reduction of secondary to primary qualities. After these preliminaries we may now proceed to describe Boyle's experiment with nitre (or saltpetre).

A weighed amount of nitre was melted in a crucible and, while the nitre was still molten, a small live coal was cast into it. This kindled the nitre "and made it boyl and hisse and flash for a pretty while." After the action had subsided, further live coals were added from time to time until kindling ceased. After this the mixture was strongly heated for a quarter of an hour

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so that if any volatile part should yet remain, it might be forced off. The residual "fixed Nitre" was then divided into two equal parts. One part was dissolved in water, and Spirit of Saltpetre was dropped on it until it no longer effervesced. The other portion was similarly treated except that it was not dissolved in water prior to the addition of acid. Both solutions were then set to evaporate in the air near an open window.

In a few hours there appeared in the glass containing the first mixture some saline particles which seemed to be saltpetre, to judge by the shape of the crystals and from their manner of burning. The second mixture was very slow in crystallizing. So water was added, and the solution was evaporated. This also gave a salt resembling saltpetre in the shape of its crystals, and in the manner of its burning on live coals. But it was slightly different in taste when first applied to the tongue.

Boyle did not weigh the nitre recovered at the end of the experiment. He also disregarded the weight of the "live coals." He had not grasped the rôle played by the coals. To him they merely kindled the nitre, and thus set free its volatile parts. Boyle only aimed at a real severance or analysis of the "differing parts" of the "concrete," nitre, and thought he had achieved his aim.

Boyle discusses the significance of the experiment at great length. He says that it "seems to afford us an instance, by which we may discern that Motion, Figure and Disposition of parts, and such like primary and mechanical Affections (if I may so call them) of Matter, may suffice to produce those more secondary Affections of Bodies which are wont to be called Sensible Qualities." Now, saltpetre had been regarded as a cold body, one of the coldest: it was given in fevers by physicians. "And yet the parts of this so cold Body, its Spirit and

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Alkali (by the latter of which Chymists are wont to mean any fix'd Salt produced by burning), put together, do immediately agitate each other with great vehemency ; and did in our Experiment produce such an heat, that I could scarcely endure to hold in my hand the Vial, wherein much lesse than an ounce of each was mix'd, though but leisurely and almost by drops : as if Heat were nothing but a various and nimble motion of the minute particles of Bodies. For in our Experiments, as long as that confus'd agitation lasted, so long the heat endur'd, and with that agitation it encreas'd and abated ; and at length when the motion ceas'd, the heat also vanish'd."

The production of sound and the sudden disappearance of the "blewish green colour" of the "fix'd Petre" on the addition of acid are also adduced as evidence for the modification of the "disposition of parts." Again, the "Nitrous Spirit" has an unpleasant smell, which is made even more so when it is poured on its own fixed salt, a substance of languid odour. Yet saltpetre, from which these bodies of varying odour spring, "and which may again emerge from the coalition of them," is itself odourless. The two bodies also differed in taste : the spirit was very acid, "a strong and sour 'Acetum Minerale,'" while the "fixt Nitre" had an equally strong taste of "Salt of Tartar"—properties not exhibited by the petre.

The experiment also called into question the principle that inflammability in "mixt bodies" argued "a distinct sulphureous ingredient." It shows us "that Salt-Petre (which not onely is inflammable but burns very fiercely and violently) may be produc'd by the coalition of two bodies, which are neither of them inflammable ; the one being a fix'd Salt, that to become such has already suffer'd the loss of all that the fire could deprive it of, and the other being a Spirit abounding with acid

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particles, which kind of Salts have been observ'd to be more apt to quench than foment fire."

Boyle here emphasizes the great difference between the various "active parts" of a body, when they are bound up in the texture of a "Concrete," and when they are free to assemble like with like. He comments on the "unwarinesse" of those Chymists, who had ascribed to every one of the several "Principles" of a "Concrete" the properties of the entire body; for, "we may observe, that when Salt-Petre is distill'd, the volatile liquor and fix'd Salt into which it is reduc'd by the fire are endow'd with properties exceeding different both from each other, and from those of the undissipated concrete."

He then proceeds: "And if upon further and exacter tryal it appears that the whole body of the Salt-Petre, after it's having been sever'd into very differing parts by distillation, may be adequately re-united into Salt-Petre equiponderant to its first self; this experiment will afford us a noble and (for aught we have hitherto met with) single instance to make it probable that that which is commonly called the Form of a Concrete, which gives it it's being and denomination, and from whence all it's qualities are in the vulgar Philosophy, by I know not what inexplicable wayes, supposed to flow, may be in some bodies but a Modification of the matter they consist of, whose parts by being so and so disposed in relation to each other, constitute such a determinate kind of body, endowed with such and such properties; whereas if the same parts were otherwise disposed, they would constitute other bodies of very differing natures from that of the Concrete whose parts they formerly were, and which may again result or be produc'd after it's dissipation and seeming destruction, by the re-union of the same component particles, associated according to their former disposition."

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“The Redintegration of an analyz’d body, if it can be accurately and really perform’d, may give much light to many particulars in Philosophy, and would certainly be very welcome both to the embracers of the Atomical Hypothesis, and generally to those other Modern Naturalists, who aspire to such Explications of Nature’s Phenomena as may at last be understood.”

Boyle thought he had effected a separation, which showed that nitre was a “Concrete,” formed from the “differing parts” called “fix’t Salt” and “Spirit of Nitre,” and therefore more complex than either of the latter—a conclusion we now know to be erroneous. Boyle also considered that, in the subsequent interaction of the “fix’t Salt” and the “Spirit of Nitre” to reform the original nitre, there was a modification of the “disposition of parts” of the reactants and that this modification gave rise to nitre and to its properties. To him it was the mere union of two ingredients. He saw nothing vital in the effervescence that occurred when the “Spirit of Nitre” was added to the “fix’t Salt”—it was mere commotion in the liquid. The correct interpretation of this was not given until Black appeared nearly a century later.

For Spinoza, as appears from Letter XIII, from *Metaphysical Thoughts*, Part II, Ch. I, etc., the question of “substantial forms” and “occult qualities” was not a live question. He simply ignored them, and did not consider it worth anybody’s while to waste time in disproving them formally. Like other people after him, Spinoza read into Boyle’s endeavours more ambitious aims, such as the elaboration of a mechanistic system of explanation of natural phenomena. The result of this was a certain amount of mutual misunderstanding and mutual irritation. To understand Letters VI, XI and XIII it must be remembered that Spinoza was thinking all the time of a mechanistic natural science,

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while Boyle was mainly thinking of banishing "substantial forms," etc., from the realm of serious science.

P. 91, l. 7. "Mathematical" was commonly used for "exact" or "scientific."

P. 91, l. 36. The footnote shows that Spinoza kept the drafts or copies of his more important letters, perhaps with a view to publication.

P. 93, l. 16. "Affections." This term was commonly used for *states* or *modifications*.

P. 97, l. 21. "Four hundred and thirty-two" ounces. So the Latin edition of 1667. But the English editions of 1661 and 1669 say "an hundred thirty two ounces." The Latin translator must have mixed this up with the four hundred ounces mentioned in connection with the next experiment.

P. 98, l. 14. The last two paragraphs of this letter are from the autograph original, and are not contained in the *Posthumous Works*.

P. 98, l. 22. The concluding paragraph must refer to the *Short Treatise* and to the *Treatise on the Improvement of the Understanding*. When writing the present letter, in 1662, Spinoza's plan was evidently to write one work combining the contents of both these treatises as we have them now. The *Short Treatise* has certainly undergone some revision with that end in view. Eventually, however, Spinoza appears to have put it aside, and to have made a new start, which ended in his *Ethics*.

P. 99, l. 12. *Spinoza's signature*. This is the first letter which contains his autograph signature. Altogether eleven autograph signatures of Spinoza are known. In these the first name is always either *Benedictus* or the initial *B*. The surname, however, appears in three different forms: (*a*) Spinoza, (*b*) de Spinoza, (*c*) despinoza. The first of these forms, (*a*), occurs twice in the eleven extant signatures, the second, (*b*), six times, and the third form, (*c*), three times. In one

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case the *p* and the *n* have some kind of phonetic symbol over them. Presumably the *n* was originally pronounced as in *new*. The significance of the sign over the *p* is not known. The prevailing custom is in favour of *Spinoza* simply, as against *de Spinoza* or *Despinoza*. And the usual pronunciation is *Spin-o-za*, not *Spy-noza*. All that can be said in favour of the latter pronunciation is that it has a good story to its credit.

The story is related by Coleridge in his *Biographia Literaria*, Ch. X, and was staged at the outbreak of the Great War with France, when, as in every Great War, he who was not a blatant jingo was liable to be regarded as a spy. Coleridge and Wordsworth were staying in Somersetshire, in a cottage at the foot of Quantock, where they struggled with the problem of reconciling personality with infinity. “Yet neither my retirement nor my utter abstraction from all the disputes of the day could secure me in those jealous times from suspicion and obloquy, which did not stop at me, but extended to my excellent friend [Wordsworth].” “The dark guesses of some *Quidnunc* met with so congenial a soil in the grave alarm of a titled Dogberry of our neighbourhood, that a spy was actually sent down from the Government *pour surveillance* of myself and friend. There must have been not only abundance, but variety of these ‘honourable men’ at the disposal of Ministers: for this proved a very honest fellow. After three weeks’ truly Indian perseverance in tracking us (for we were commonly together) during all which time seldom were we out of doors, but he contrived to be within hearing,—(and all the while utterly unsuspected; how indeed, *could* such a suspicion enter our fancies?)—he not only rejected Sir Dogberry’s request that he would try yet a little longer, but declared to him his belief, that both my friend and myself were as good subjects, for aught he could discover to the contrary, as any in

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His Majesty's dominions. He had repeatedly hid himself, he said, for hours together behind a bank at the sea-side (our favourite seat) and overheard our conversation. At first he fancied that we were aware of our danger; for he often heard me talk of one *Spy Nozy*, which he was inclined to interpret of himself, and of a remarkable feature belonging to him; but he was speedily convinced that it was the name of a man who had made a book and lived long ago. Our talk ran most upon books, and we were perpetually desiring each other to look at *this*, and to listen to *that*; but he could not catch a word about politics."

LETTER VII

P. 99. This letter is not dated, but it must have been written towards the end of July 1662. This is clear from Oldenburg's mode of reference to the granting of the Charter to the Royal Society, which took place on July 15, 1662. The letter is only known from the *Posthumous Works*, the original, written in Latin, having been lost.

P. 100, l. 3. Boyle's *New Experiments Physico-Mechanical touching the Spring of the Air and its Effects, made for the most part in a new Pneumatical Engine* appeared in 1660. The "pneumatical engine" to which the title refers was an air-pump (also known as *Machina Boyleana*) which Boyle, with the aid of Robert Hooke, had constructed in 1659 after he had read in 1657 of Guericke's air-pump. By means of the air-pump Boyle studied the elasticity, compressibility and weight of air, also its function in combustion, respiration, and in the conveyance of sound, and he exploded the legend of a *fuga* (or *horror*) *vacui*, Nature's alleged shunning (or abhorrence) of a vacuum. The book was criticized by

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Thomas Hobbes and Franciscus Linus. (Franciscus Linus was born in London in 1595. He joined the Jesuits, and taught Hebrew and Mathematics at Lüttich.) Boyle's reply (printed as an Appendix to the second edition of the *New Experiments* in 1662) is famous for its experimental proof of what has since become known as Boyle's Law (that the pressure and the volume of a gas vary in inverse proportion).

P. 100, l. 10. "The Royal Society" received its Charter on July 15, 1662. See *Introduction*, § 4.

P. 100, l. 34. "Momus" is a character from classical mythology noted for his censoriousness, indeed, he is the embodiment of it.

LETTER VIII

P. 101. The original letter, written in Latin, belongs to the Orphanage of the Baptist Collegiants in Amsterdam, and is deposited in the Archives of the United Baptists there. The *Posthumous Works* give it in an abridged form.

P. 101, l. 23. Johannes Casearius was born in 1642 and was probably a pupil in Van den Enden's school in Amsterdam. In 1661 he entered the University of Leyden, and sometime afterwards went to live in Rhynsburg, where he stayed in the same cottage as Spinoza and received instruction from him in the new (i.e. Cartesian) philosophy. Some of the more enterprising undergraduates at Leyden used to visit Rhynsburg (which is near Leyden) to attend the Collegiant meetings there. Casearius may have met Spinoza in that way, or he may have known him from Van den Enden's school, where Spinoza had taught for a time. Casearius appears to have caused Spinoza some anxiety during those Rhynsburg days, being rather superficial, and addicted to

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novelty rather than devoted to truth; but Spinoza confidently expected better things of him when he matured (see Spinoza's reply to De Vries, Letter IX). In 1665 Casearius was ordained by the Reformed Church in Amsterdam. In 1668 he was appointed to a post in the Dutch East Indies. Eventually he ministered to the Christian souls in Malabar. Here he came into contact with Van Reede, the Governor, who took a deep interest in Botany, and published eventually his *Hortus Malabaricus*. The text of the first two folio volumes of this once famous work was written by Casearius. He died in June 1677 of dysentery. In his Preface to Vol. III of the *Hortus Malabaricus* (1682) Van Reede paid a warm tribute to the memory of Casearius, whose name has since been given to a certain family of plants, the *Casearia*. Such in brief is the story of the pupil who was the occasion of Spinoza's first published work.

P. 102, l. 18. Giovanni Alfonso Borelli (1608–1679) was born in Naples, and became Professor of Mathematics in Messina (1649) and in Pisa (1656). In 1658 he published an edition of Euclid (*Euclides Restitutus*) in Pisa, and subsequently many other books on mathematics, astronomy, physics, and biology. From 1674 till his death he lived in retirement in Rome, under the protection of Christina, Queen of Sweden.

P. 103, l. 3. Andreas Tacquet was born in Antwerp in 1611. In 1654 he published his *Elements of Plane and Solid Geometry*, in an Appendix to which occurs the passage referred to in this letter.

P. 103, l. 6. Christopher Clavius (1537–1612) was born in Bamberg and died in Rome. He was a noted mathematician, and helped with the Gregorian Calendar. In 1574 he published an edition of Euclid with a commentary. The passage referred to in this letter occurs on page 27 of this edition of Euclid.

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P. 103, l. 35. "The third Definition." See *Ethics*, I, Definitions III and IV.

P. 104, l. 13. "The Third Scholium to Proposition 8." Compare *Ethics*, I, Prop. X., Scholium.

P. 104, l. 24. "The fifth Definition." See *Ethics*, I, Definition VI.

P. 104, l. 32. "P. Balling." See *Introduction*, § 6.

P. 104, l. 33. "The Scholium to Proposition 19" is not known. Concerning Simon de Vries, see *Introduction*, § 6.

Pp. 101–104. This reference to the society of young men in Amsterdam, who met to read and to discuss communications sent to them in manuscript by Spinoza, is of great interest. It was no doubt to them that the *Short Treatise* and its concluding message were addressed (see page 403).

LETTER IX

P. 105. The original draft of this letter, written in Latin, is preserved in the Library of the United Baptists in Amsterdam. A facsimile of it is contained in W. Meyer's edition (1903). The *Posthumous Works* print an abridged form of it. The concluding paragraph is only found in the Dutch edition of the *Posthumous Works*. The letter is not dated, but was probably written about the end of February 1663.

P. 105, l. 24. "My night-work." This confirms the report of Kortholt (1700) that Spinoza "devoted himself to his studies far into the night, and for the most part toiled . . . by lamplight from the tenth evening hour until the third" (see *The Oldest Biography of Spinoza*, p. 166). Spinoza had to devote his days to the making of lenses, whereby he maintained himself.

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P. 105, l. 27. Concerning Casearius, see Annotations to Letter VIII.

P. 108, l. 3. What Spinoza is trying to explain to de Vries about the relation between Thought and Concepts (or Ideas) may perhaps be best expressed in this way. De Vries seemed to suppose that the nature of Thought can be arrived at by abstracting from all definite ideas or concepts, as though Thought (to use a current expression) were an *abstract* universal. For Spinoza, however, Thought is essentially what Bosanquet would have called a *concrete* universal—it is the whole system of ideas. Not Thought, but the separate ideas are obtained by abstraction, by quasi-detachment. Thought, as Spinoza conceived it, is a live system of ideas or concepts. If you think away the concepts, you remove, so to say, the members of the organism, and then, of course, there is no organism left.

P. 108, l. 12. “Creating Nature” and “Created Nature” (*Natura naturans* and *Natura naturata*). Spinoza adopted these Scholastic terms to express the antithesis between unconditioned Substance (or the Attributes Thought and Extension) on the one hand, and the system of conditioned or dependent realities which follow from the former, on the other hand. Here he wants to point out that intellect or understanding (even the infinite understanding) is not the same as the Attribute Thought (which pertains to “creating Nature”), but is a *mode* or *modification* of it (and so pertains to “created Nature”).

P. 108, l. 17. Compare *Ethics*, Part I, Definitions III and IV, also Letter VIII.

P. 108, l. 21. “With respect to the intellect.” This must not be taken to imply that Attribute is something merely subjective. According to Spinoza the Intellect or Understanding apprehends Reality as it is. It is only the separation in thought of one Attribute from the others with which it is organically interconnected in

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Substance that distinguishes Attribute from Substance. There is nothing subjective in Spinoza's illustration drawn from the names of the third Patriarch, even if the other illustration given by Spinoza does lend itself to this misinterpretation.

P. 108, l. 30. "Jacob . . . because he had seized his brother's heel." The Hebrew root of the name Jacob means "a heel." Hence the Biblical legend.

P. 108, l. 32. "Plane" and "White." The idea that a plane or smooth surface which reflects all the rays of light incident upon it is white, while a rough surface which reflects only a few of the rays is black, appears to have been put forward by Democritus. So at least Aristotle reports. The idea prevailed more or less up to the time of Spinoza. It is to be found in Boyle's *Experiments and Considerations touching Colours* (1664) with some modifications.

LETTER X

P. 109. This letter is only known from the *Posthumous Works*, the original letter, written in Latin, having been lost.

P. 109, l. 10. "The Definition of some Attribute." See Letters VIII and IX, and *Ethics*, Part I, Definitions III and IV.

P. 109, l. 26. "Eternal truths." Spinoza here explains that in a sense any truth (even a truth concerning finite things and events) is an eternal truth. Once true, always true, if due regard is paid to conditions of time and place. It is more usual, however (Spinoza goes on to explain), to reserve the name "eternal truths" for axioms or "common notions," such as *ex nihilo nihil fit*. See Annotations to Letter IV (on "common notions").

LETTER XI

P. 110. This letter is only known from the *Posthumous Works*, the original letter, written in Latin, having been lost.

P. 110, l. 28. "The Common Doctrine of Substantial Forms and Qualities." See *Introduction*, § 4, and the Annotations to Letter VI.

P. 111, l. 30. "Descartes' theory of fire." According to Descartes the physical universe is composed of three kinds of matter or elements: (1) The swiftly moving, finely divided *first element*, forming the sun and the stars and the core of the earth; (2) the transparent *second element*, forming the heavens and filling space; (3) the dense *third element*, forming the crust of the earth. Particles of earthly bodies assume the form of *fire* when they are separated from one another and carried along by the motion of the first element. This motion must, however, be maintained with sufficient vigour to dispel the second element, which is always tending to close round the particles and so to extinguish the fire. For a substance to be set on fire some force is required to drive out the second element from its pores so as to admit of the entrance of the first element. See Descartes, *Principles of Philosophy*, Part IV, Principles LXXX–CXIX.

P. 112, l. 26. Pierre Gassendi (1592–1655) attempted to combine the doctrines of Theism with the mechanistic and atomistic doctrines of the Epicureans.

P. 112, l. 28. "Visible forms," that is visible arrangements of materials, not the invisible and mysterious "substantial forms" discussed in the Annotations to Letter VI.

P. 114, l. 14. "That very important essay," etc.

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See the concluding paragraph of Letter VI and the annotation thereto.

P. 114, l. 33. "Other works" by Boyle referred to here are his *Considerations touching the Usefulness of Experimental Natural Philosophy* and his *Experiments and Considerations touching Colours*, which were published, in Latin translations as well as in English, in 1663 and 1664 respectively.

LETTER XII

P. 115. This letter is only known from the *Posthumous Works*. The original letter or, more likely, Spinoza's draft or copy of it, is said to have appeared in the sale-room when the library of J. J. van Voorst, of Amsterdam, was sold by auction in 1860, and to have been purchased by a Paris bookseller named Durand. But it cannot be traced now. A copy of the letter made by Leibniz is preserved in the former Royal Library at Hanover.

P. 115, l. 15. Concerning L. Meyer, see *Introduction*, § 6. P. M. Q. D. stands for *Philosophiae Medicinaeque Doctor*.

P. 115, l. 16. "On the Nature of the Infinite." The fact that the letter has a title, and the way in which it is referred to by that title in Letter LXXXI, show that copies of some of Spinoza's letters circulated among his friends. This is confirmed by the fact that Leibniz copied with his own hand not only this letter, but also several others.

P. 115, l. 19. "Friend N. N." was probably Pieter Balling (*Introduction*, § 6), who visited Spinoza early in 1663, and no doubt brought him some letters from Amsterdam, just as on his return he took letters from Spinoza to friends in Amsterdam (see Letter VIII).

P. 120, l. 18. "A B C D." The *Posthumous Works*

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give "A B and C D." The correct expression is found in the copy of this letter made by Leibniz.

P. 120, l. 20. On the title-page of Spinoza's geometric version of Descartes' *Principles*, published about the same time as this letter was written, there is printed a device very like this diagram, presumably as a symbol of infinity.

P. 121, l. 5. "Corporeal Substance" here means the Attribute Extension.

P. 121, l. 15. "Abstractly" means "apart from the whole of which they are aspects."

P. 121, l. 36. "Rab Chasdai" is usually known as Chasdai Crescas ("Rab" is simply the Hebrew for "Mr." or *Magister*). Chasdai Crescas was a famous Jewish theologian. He was born in Barcelona about 1340, and died there about 1410. In his book called *The Light of the Lord* (written in Hebrew) he contested the Aristotelian proof of God's existence, which proof Maimonides (1135-1204), the most famous Jewish philosopher of the Middle Ages and one of the main sources of the thoughts of Thomas Aquinas, had adopted in his book called *The Guide of the Perplexed* (written in Arabic). The argument in question relied on the impossibility of an infinite regression from effects to their causes, and thence inferred the existence of a First Cause. Crescas challenged the alleged impossibility of such an infinite regression, and suggested a sounder proof of God's existence. His argument was based on the impossibility of conceiving a world entirely conditioned or dependent, without some unconditioned Ground, some uncaused or self-caused Cause to sustain it all. Crescas himself was interested in religious apologetics rather than in pure philosophy, and his ultimate object in opposing Aristotelianism was to vindicate Revelation as the sole arbiter of religious problems. But this does not do away with the fact

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that Spinoza did take over from Crescas this very important argument from the conditioned to the Unconditioned or the Absolute, which is fundamental for Spinozistic philosophy. In other respects the views of the two thinkers are very divergent.

In his *Metaphysical Thoughts* (II, x), published *after* the date of this letter, Spinoza himself employed the argument from the impossibility of an infinite regression. But then, as may be seen from Letter XV and from Meyer's Preface to Spinoza's geometric version of Descartes' *Principles* (to which the *Metaphysical Thoughts* were appended), Spinoza was not expounding his own views therein. For Spinoza the whole question of proving the existence of God did not turn on the terms finite and infinite, as was commonly conceived then, but on the antithesis *conditioned* and *unconditioned*. By merely tracing each effect to its cause, and that cause to its cause, indefinitely, no real solution can be arrived at. For, so long as the First Cause is conceived as itself a member within the series of causes and effects, it is always possible to ask, as children sometimes do ask, "Who made God?" What Spinoza did was to conceive God (or Nature, or Substance) not as merely a member and transeunt cause of the infinite process, but as the unconditioned ground or immanent cause which sustains the whole and expresses itself in the whole. And his insistence on the *eternity* of Substance is a correction of the tendency to regard Substance (or God or the First Cause) merely as a link (or first link) in the endless *duration* of causal processes (to say nothing of the palpable inconsistency between a *first* cause and an *endless* process). That was also the main reason for his insistence on the fundamental difference between *Infinity* (as he conceived it) and mere *endlessness* or indefiniteness. These misleading and troublesome tendencies Spinoza attributed to man's proneness to substi-

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tute imagination for thought or understanding which alone can apprehend the real character of Extension, Time, etc. (see Letter LVI).

P. 119, l. 20. The argument that if you once begin to divide and subdivide time indefinitely, it becomes incomprehensible how an hour can ever elapse is a form of Zeno's paradox. Compare Bergson's treatment of Time and Duration.

LETTER XIII

P. 122. This letter is only known from the *Posthumous Works*, the original letter, written in Latin, having been lost.

P. 123, l. 7. "A certain young man," namely, J. Casearius. See Annotations to Letter VIII.

P. 123, l. 22. "A certain friend of mine," namely, L. Meyer (see *Introduction*, § 6).

P. 123, l. 32. "Some who hold the first places in my country." Spinoza probably meant Jan de Witt and his colleagues. Since 1650 the party of Jan de Witt had displaced the Orange Party. Spinoza evidently realized, much better than did the more experienced and much older Oldenburg, that his only chance of securing a measure of freedom of self-expression in Holland at that time lay in obtaining the protection of Jan de Witt and his friends against the fanaticism of the dominant Calvinist clergy.*

* The question whether Spinoza and de Witt really came into personal contact cannot be answered categorically. There is some evidence in support of the view that they did. But the evidence is not beyond question, and Dr. N. Japikse, in his *Spinoza en de Witt* (The Hague, 1927), is very sceptical about it. In view of the evidence of the usually well-informed "oldest biographer of Spinoza" (Lucas), and of Spinoza's communication to Leibniz about his extreme agitation at the murder of the de Witts, it seems to me highly probable that Spinoza and de Witt had come into personal contact. But Dr. Japikse is probably right in maintaining that their relationship could not have been intimate.

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In addition to the reason here given by Spinoza for the publication of his *René Descartes' Principles of Philosophy, Parts I and II, demonstrated according to the geometrical method* (1663, Dutch version 1664) two additional reasons are given elsewhere. In Meyer's Preface to the book we are told that Spinoza did so because his Amsterdam friends (including Meyer himself) had earnestly begged him to do so. It is known that they were all deeply interested in "the new philosophy" (i.e. Cartesianism), and that Jelles actually defrayed the cost of printing this manual of Cartesianism. Yet a third reason is stated by Lucas in his *Biography of Spinoza*—namely, that Spinoza's criticisms of Descartes had caused something like a storm among the Cartesians in Holland, and that, at the request of his friends, Spinoza published his version of Descartes' *Principles* to show that he could speak with authority about the Cartesian philosophy (*The Oldest Biography of Spinoza*, pp. 57 f. and 147 f.).

P. 126, l. 11. "Real accidents." The Scholastic philosophers (as already explained in the Annotation to Letter IV) applied the term *accident* to any quality. Some of them, however, distinguished some qualities of things (namely, those like colour, smell, etc., which stimulate the sense-organs) as having a reality even apart from the substances in which they normally inhere. These they called "real accidents" (*accidentia realia*). But Spinoza, like Descartes, would admit no such "real accidents." Everything real must be either self-existent (substance, attribute), or dependent on something else (accident, mode, etc.). There is no middle course.

P. 128, l. 12. "Nothing human was alien to them." A witty application of the familiar line from Terence: *Homo sum, humani nihil a me alienum puto*, interpreted in the light of the popular maxim *humanum errare est*.

LETTER XIV

P. 131. This letter is only known from the *Posthumous Works*, the Dutch version of which gives August 10th (new style) as its date. The Latin original has been lost. The second sentence in the last paragraph but one is from the Dutch translation; it is omitted from the text printed in the *Opera Posthuma*.

P. 131, l. 26. Peter Serrarius was a Belgian, born in 1636. He lived in Amsterdam, and visited London frequently, and so could deliver, or arrange for others to deliver, the letters which passed between Spinoza and Oldenburg. Very little is known about Serrarius, except that he believed in the second advent of Christ and in the coming of the Millennium, and that he saw signs and portents of the coming of these great events in various contemporary happenings. Lots of people entertained such views then. Even among the Jews of that time there were pious dreamers like Manasseh ben Israel, a teacher of Spinoza, and there were credulous dupes who believed in the Messianic character of Sabbatai Zevi. Of course those who did not share his views regarded Serrarius as an eccentric character.

In 1667 Serrarius published a *Reply* to L. Meyer's *Philosophy the Interpreter of Holy Scripture*. The title of the *Reply* was *Responsio ad Exercitationem Paradoxam* (Amsterdam: Typis Cunradi, 1667. 4°.)

P. 132, l. 12. Boyle's *Sceptical Chymist* and a Latin translation of it (*Chymista Scepticus*) were published in 1662.

P. 132, l. 15. "Hypostatical Principles of the Spagyrist." The Spagyrist were those who embraced the views of Paracelsus (1490-1541). Until the time of Paracelsus it was commonly supposed that all material

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bodies were composed of the four elements earth, air, fire and water. The doctrine of "the four elements" was first formulated by Empedocles (490-430 B.C.), but became widespread chiefly through the writings of Aristotle. Hence those who embraced the doctrine of the four elements were known as the Aristotelians or the Peripatetics. Paracelsus rejected this view, and substituted a theory of three ultimate principles, namely, salt, sulphur, mercury. (*Principle* is here used in the literal sense of anything *original* or *ultimate*, and is practically equivalent to *element*; in fact, Boyle used *element* and *principle* as synonyms.) These three hypostatical or constitutive principles could, of course, only be made to account for all things by an extremely elastic conception of each of them, as Boyle delighted in showing. Some chemists compromised by including in their list of elements not only the three principles of Paracelsus, but also some or all of the four elements of Empedocles. But Boyle rightly insisted that all such doctrines were mere guesses unsupported by experiment, and that the number of ultimate elements, indeed the very question if there existed separate elements, were still open questions to be determined, if at all, by experiment. Boyle did much to clear up the notion of an "element." But even he could do nothing to indicate how an element might be recognized. This task was not accomplished till the time of Lavoisier, a century later.

P. 132, l. 21. Boyle's *Defence* against the criticisms of Franciscus Linus was published in 1663 (see annotations to Letter VII). The full title of the book is *Defensio doctrinae de elatere et gravitate aeris, adversus Franc. Lini objectiones*. A copy of it was in Spinoza's library, as appears from the official inventory of his belongings taken immediately after his death.

P. 133, l. 33. "The Torricellian experiment." Torricelli (1608-1647), at one time assistant to Galilei, was